IMPACT UPON U.S. SECURITY OF A SOUTH AFRICAN NUCLEAR WEAPONS CAPABILITY

Final

April 1981

Technical Note
SSC-TN-1200-1

By: Kenneth L. Adelman
Albion W. Knight (Consultant)

STRATEGIC STUDIES CENTER

SRI Project 1200

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EXECUTIVE SUMMARY

The primary focus of this research project is on the impact upon United States security interests of South Africa's acquiring an overt nuclear weapons capability. The research was built upon the five assumptions that: a) South Africa's government will remain firstly Afrikaner-dominated, secondly determined to preserve Afrikaner survival regardless of internal or external opposition, and thirdly strong militarily, economically, and politically despite assaults to the government; b) the southern African region will experience less military conflict, due to resolution of conflict in Zimbabwe, yet still politically tense; c) the global security situation of the United States will remain serious, if not grave in the decade ahead; d) the U.S. will move toward lessening its energy dependence though primary U.S. allies will continue to depend upon Persian Gulf oil; and e) nuclear proliferation will continue to be opposed by the U.S. government.

Previous research by the SSC/SRI indicated that South Africa possesses the technological, managerial, and mineral resources to deploy nuclear weapons in the near future, if not presently. That government can acquire nuclear weapons as it deems such action essential for the Afrikaners' survival and the state's security. The critical factor in such a decision will not be technological but rather psychological, namely, the politico-strategic perspectives of the rulers. Due to several factors discussed at length in the report, such action could be undertaken sooner than one might otherwise expect or sooner than might seem warranted by those in the outside world. Afrikaner rulers will make this decision primarily independent of U.S. security interests, though U.S. actions in Africa and around the world will influence that decision.

An overt nuclear weapons capability by South Africa would indirectly and adversely effect Western access to vital natural resources in several ways. Should the American reaction to South Africa'a clear acquisition of nuclear weapons prove too harsh, then Pretoria could conceivably cut off various critical minerals to the U.S., thereby halting the flow of metals key to high technology industries which in turn, are critical to U.S. national security. Should Washington's reaction be judged insufficient by northern and black African nations, they too might retaliate by minimizing or eliminating U.S. access to their resources, including oil. Admittedly, both types of embargoes would be costly to the African nation(s) undertaking them, and might be temporary in duration; still, each lies within the realm of possibility. One possible remedy lies in the prudent expansion of critical minerals stockpiles so as to permit the U.S. government leeway in the event of such embargo. Another lies in the careful consideration of potential U.S. retaliatory threats or even actions to counteract the threat or reality of a mineral or oil embargo.

An overt nuclear weapons capability by South Africa would adversely effect U.S. and Western political interests. Western powers would then be castigated by Third World countries for past nuclear cooperation with the Republic and would be challenged to impose harsh U.N. economic and political sanctions. The inevitable Western reaction to such an action by Pretoria would hurt Western ties to South Africa itself, thereby encouraging the Afrikaners to proceed towards self-dependence in a host of areas and towards greater isolation.

Display of such a nuclear capability might inflame the security situation in southern Africa during periods of relative tranquility, since neighboring states may then be encouraged to welcome more Soviet and allied (i.e., Cuban, East German) involvement. During times of real turmoil, however, this display could dampen the ongoing conflict through its inevitable sobering effect upon the Republic's adversaries.

Within the military realm, an overt nuclear weapons capability by South Africa would make Western security cooperation with the Republic all the more imperative yet all the more difficult. It would be imperative since Western capitals would then be more eager to learn the possible use of this capability and to influence decisions within this realm. Yet it would be more difficult due to the higher political barriers which would arise after a South African nuclear display.

A clear South African nuclear capability might be helpful to Western security interests in one respect, namely, if Pretoria decided to produce nuclear anti-submarine weapons. An announced ASW nuclear capability would enhance South Africa's capability to protect the Cape route during times of global tension or global confrontation. Since such an ASW weapon could easily be converted into a nuclear gravity bomb, South Africa could simultaneously gain a deterrent capability with respect to threats it perceives as looming from ground assaults in the region. To serve overall Western security interests in this manner, Western-South African security cooperation would have to be far more extensive and intensive than presently exists.

FOREWORD

This project on a potential South African nuclear capability continues many years of research at the Strategic Studies Center of SRI in proliferation-nonproliferation studies and in African affairs.

The basis for studies in the proliferation field was a model of monitoring nuclear proliferation which was created by Richard B. Foster, James E. Dornan, Jr., and associates of the Strategic Studies Center. This model provides an integrative framework for assessing political, military, economic, and technical factors bearing on nuclear proliferation tendencies in Nth nations. On the basis of this model, Kenneth L. Adelman and Albion W. Knight researched and wrote "Monitoring Nuclear Proliferation: A Case Study on South Africa" for the Defense Intelligence Agency (April 1979).

Studies by the Strategic Studies Center on African security affairs began three years ago with "U.S. Security Interests and Options in Central Africa" by Kenneth L. Adelman for the Assistant Secretary of Defense for International Security Affairs (December 1977). The African program continued with a study by Kenneth L. Adelman and John Seiler, "Alternative Futures in Southern Africa," again for the Assistant Secretary of Defense for International Security Affairs (November 1979). This effort was followed by the case study of South Africa for monitoring nuclear proliferation which Adelman and Knight researched for DIA.

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CONTENTS

LIST OF TABLES

I RESEARCH PROBLEM AND ASSUMPTIONS

The main problem under investigation in this research project is to determine the impact upon U.S. security interests of South Africa's acquiring an overt nuclear weapons capability.

Previously, the same team of primary researchers, Kenneth Adelman and Albion Knight of SRI's Strategic Studies Center, investigated the matter of monitoring South African nuclear proliferation. The study found that "the panoply of technological, political, strategic, and economic factors all point to the conclusion that South Africa does indeed have the technological and economic capability to produce nuclear weapons." [1] More specifically, we found that South Africa has:

- A sufficient scientific and industrial base on which to conduct a nuclear weapons R&D program;
- A laboratory structure capable of supporting nuclear weapons development in addition to its existing program to develop methods of enriching uranium;
- Access to technology needed for nuclear weapons development in spite of strong international efforts to isolate it in military related matters;
- More than adequate resources to support both a nuclear weapons program and continued strong participation in the international uranium market;
- The capacity to produce fissionable materials required for a small number of nuclear weapons, a capability that can increase over the next five years;

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[1] Kenneth L. Adelman and Albion W. Knight, "Monitoring Nuclear Proliferation A Case Study on South Africa," SSC-TN-7552-1, SRI/Strategic Studies Center, (April 1979).

- A tightly controlled, efficient structure capable of managing a nuclear weapons development-and-production program, either covert or overt;
- The industrial infrastructure capable of supporting the production of nuclear weapons; and
- Existing operational aircraft capable of delivering nuclear weapons at ranges appropriate to its defense needs.

The focus of attention in the previous study was, as the title indicates, upon "monitoring nuclear proliferation" and not upon assessing the impact of such nuclear proliferation. The study at hand does this, as it examines the implications of South Africa overtly possessing nuclear weapons upon American security interests both regionally and globally. This is a critical topic if U.S. policymakers are to anticipate future events rather than merely to react to present events or alter policies in response to past occurrences. For we believe that an overt South African nuclear capability could constitute as momentous an event in proliferation history of the 1980s as the overt Indian capability did in the 1970s.

Events since the completion of the SRI/SSC study of April 1979 have enhanced the salience and importance of the subject at hand, i.e., the impact upon U.S. security interests of an open South African nuclear weapons program. In particular, the publicly-unexplained September 1979 event in the South Atlantic Ocean below the Cape of Good Hope aroused world-wide interest as to whether South Africa did conduct, or cooperate in conducting, a nuclear test at that time.

To best organize the topic, we consider the repercussions upon U.S. security interests in southern Africa or in the African region generally; second, upon U.S. security interests throughout the world; and third, upon U.S. security interests in halting the spread of nuclear proliferation in general.

A. Study Assumptions

In order to impose reasonable limitation upon this broad topic, the following assumptions are made:

First, we assume that South Africa's government will remain over the near-term future basically as it stands today: Afrikaner-dominated, determined to preserve its own survival regardless of the opposition, making reforms to break down the odious apartheid system, but without reducing the Afrikaners' grip on the power of the state and especially over their own affairs, and finally retaining a psychologically battered but militarily, economically, and politically strong entity.

Second, we assume that the region of southern Africa will experience less military conflict though more political conflict than in previous years; thereby, we assume that the elected government in Zimbabwe headed by Robert Mugabe brings a measure of stability to that war-torn state. Nonetheless, with three black Marxist governments--those of Angola, Mozambique and Zimbabwe--now upon its borders (or borders of its territory), South Africa will be assaulted politically in a major way and militarily more than ever before.

Third, we assume that the global security situation will remain quite serious. In fact, we believe that American security in the 1980s will be tested or even endangered given: a period of Soviet nuclear strategic superiority, the onset of Soviet reliance upon Persian Gulf oil, and the continued dependence of Western nations upon overseas resources, primarily Persian Gulf oil, but also minerals from Africa. We assume that if the Soviet Union's aggressive behavior extends beyond Afghanistan, American leaders may perceive the nation's security in terms of national survival. This then would fundamentally alter the U.S. response to an open South African nuclear capability.

Fourth and related, we assume that the U.S. will move satisfactorily on the energy front to reduce its dependence upon foreign oil. Nonetheless, the inescapable dependence upon Persian Gulf oil of our primary allies in Western Europe and Japan will continue to make the flow of oil --and hence the Cape of Good Hope route--of critical importance to U.S. security interests. This will be the case throughout the 1980s regardless of how successful U.S. energy programs, or even those of allied nations, may prove.

Fifth, we assume that the U.S. government will continue to place high priority upon its longstanding nuclear weapons nonproliferation policy. However, whether that policy would be applied rigorously to South Africa or to any strategically located state (e.g. Pakistan) would depend upon a number of factors including:

- The status of the U.S.-U.S.S.R. strategic balance and overall superpower relations;
- The degree of threat to Western resource needs obtained in the Middle East and Africa; and
- The timing of political events in the United States --whether an overt South African nuclear capability occurred before or after the 1980 presidential election--and of critical events around the world.

II SOUTH AFRICA'S NUCLEAR CAPABILITY

Before evaluating the impact an overt South African nuclear capability would have on a number of U.S. national security interests, it is necessary to sketch the backdrop to this topic. This consists of such elements as: technological aspects of South African nuclear activities; possible organizational and management approaches to its work in this area; the political and military utility a South African nuclear weapons capability might provide; views of top South African officials on these matters; and the governmental structure which influences the decision to have a covert nuclear capability.[1]

A. World Attention on a South African Capability

The possibility of South Africa acquiring a nuclear weapons capability raises fears throughout both Africa and the Western world. Such a possibility was suggested to some observors when in November 1979, a flash was "heard around the world"--a sudden, blinding light in the South Atlantic that some scientists considered proof of a nuclear explosion. It also seemed possible in August 1977 when Soviet intelligence spotted structures in the Kalahari Desert which may be part of a nuclear-device testing facility, though this is still speculative.

These events set off their own chain reactions with outcries emerging from every corner of the world. President Carter criticized the Republic and pledged that the United States would renew its efforts to "encourage

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[1] Some of this material has been summarized from the previous SRI/SSC study, some taken from further research contained in: K. L. Adelman and A. Knight, "Can South Africa Go Nuclear?" Orbis, Vol. 23, No. 3 (Fall 1979), pp. 633-647; and most is the result of research conducted specifically for this study project.

South Africa to place all their nuclear power production capabilities under international safeguards and inspections and encourage them... to sign the Non-Proliferation Treaty." The State Department's non-proliferation leader at the time, Joseph S. Nye, Jr., told Congress that it was essential to bring South African capabilities and motivations within the international safeguards system and the aegis of the Non-Proliferation Treaty. "Whatever policy choices we make, we must focus our vital interests in keeping Africa free of nuclear weapons." [1]

B. Summary of South African Capability[2]

The management of South Africa's nuclear research could well reside in an ad hoc interdisciplinary team from a variety of government research institutions, the most prominent being: a) the Atomic Energy Board which was established by the 1948 Atomic Energy Act to control nuclear activities, and maintains a tight security laboratory facility at Valindaba that could make use of the nuclear expertise of the National Nuclear Research Center at nearby Pelindaba; b) the Council for Scientific and Industrial Research (CSIR), which maintains fourteen national research laboratories and conducts extensive research directly related to weapons design and the production mission; and c) ARMOR (Armaments Development and Manufacturing Corporation of South Africa), which also has the capability to tap the necessary industrial competence but has perhaps too high a profile. The smartest move for Pretoria would be to place nuclear weapons research under the aegis of CSIR, either until the program is revealed publicly or until the number of weapons produced exceeds the capability of a pilot production line within a laboratory facility.

For nuclear weapons R&D, South Africa can build upon its existing nuclear-fuels program. Early in the atomic age, South Africa decided

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[1] U.S. House of Representatives Committee on International Relations, 95th Congress, 1st Session, United States-South Africa Relations: Nuclear Cooperation (Washington: GPO, 1978), p. 43.

[2] This section summarizes conclusions of our earlier cited April 1979 study which are pertinent background to this study.

to take advantage of its position as a major source of nuclear fuel. In the mid-1960s, the Atomic Energy Board decided to exploit economically as many elements of the nuclear fuel cycle as possible, using a light-water reactor fuel cycle. South Africa has concentrated on the "front end" of the cycle--extraction and mining--and now leads the world in uranium-extraction technology. Apparently with British help, it has developed facilities for the conversion of uranium oxide to gaseous uranium tetra-flouride and hexaflouride.

To produce nuclear weapons, South Africa must begin uranium enrichment--surely one of the most sensitive parts of the nuclear fuel cycle. When used as fuel for light-water pressurized reactors, natural uranium must be enriched from the 0.7 percent in its natural state to about 3 percent. On July 20, 1970, Prime Minister Vorster announced that South Africa's nuclear scientists had developed a new and "unique" method of uranium enrichment. The Parliament soon authorized the construction of a pilot enrichment plant at Valindaba, and by April 1975, it was in operation. Shortly thereafter, Dr. A.J.A. Roux, president of the Atomic Energy Board, gave the first technical description of the "unique" process at the European Nuclear Conference in Paris.[1]

According to its scientists, South Africa's enrichment facilities used a new "aerodynamic" technique. Through contacts in the West German program, they were versed in the centrifuge process which is more energy-efficient than any aerodynamic process. Most likely, South Africa is developing--as a first-generation production process--a variant of the Becker-nozzle-aerodynamic-enrichment technique, while exploring other enrichment technologies. Because of its broad enrichment research program, its scientists can repidly exploit any breakthroughs in the other techniques.

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[1] A.J.A. Roux and W. L. Grant, "Uranium Enrichment in South Africa," (an unpublished paper), April 1975.

Should South Africa be developing a bomb, it would not need to test the device, as was feared to be underway during the 1977 "bomb scare" or the 1979 "flash." As Dr. Edward Teller said, "a simple fission bomb can be built with no testing at all." [1] The simple bomb that devastated Hiroshima was never tested. Israel most probably has nuclear weapons capability without having conducted overt tests. It is clearly within South Africa's competence to have designed a similar fission bomb without large-scale testing.

Given its technical capabilities, it is altogether possible that South Africa'a initial nuclear weapons capabilities would have the following characteristics. First, it could develop several low-yield fission-type nuclear devices which could easily be adapted into gravity bombs or into anti-submarine warfare weapons which could be deployed from aircraft or from surface vessels. Second, due to its more sophisticated design requirements and high cost of special nuclear material, it would be unlikely that South Africa would have a nuclear artillery capability in its initial grouping of weapons. Third, South Africa would probably not yet proceed into the design of thermonuclear weapons. The possibility cannot be entirely eliminated if Pretoria was indeed responsible for the September 1979 "flash" of what was indeed a nuclear explosion. For the "flash" indicated the possibility of a clean nuclear device, one without significant fallout and one of a low yield, such as that compatible with an ASW mission. Such a weapon could involve fusion weapon techniques. Fourth, South Africa has no evident extensive capability to launch a program of surface-to-surface missiles adapted for nuclear offensive of defensive weapons. However the South African Navy has recently installed and tested a relatively short-ranged surface-to-surface anti-ship missile on its high speed partrol boats.[2] This

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[1] Edward Teller, "President Carter's Nuclear Policy Is All Wrong," Baltimore Sun, September 10, 1978.

[2] "South African Vessels Using New Missile," Washington Post, May 8, 1980.

program does establish an early foundation for a later nuclear missile program should the government so decide.

Regardless of the nature of nuclear weapons that South Africa could possess or develop, it is not lacking for nuclar delivery systems. More than 125 of its existing aircraft--including Canberras, Mirage IIIs, Mirage F-1s, Shackletons, and Piaggios--could be modified for nuclar bomb delivery. The number of aircraft required for an initial capability would be quite small.

III UTILITY FOR SOUTH AFRICAN NUCLEAR WEAPONS

With South Africa's capability in the nuclear arena firmly in mind, we can conclude that the technology would allow South Africa nuclear deployments as the leadership deemed prudent. The key in this area is thus quite opposite from that normally considered in proliferation studies; it is not scientific technology but rather politico-strategic perceptions. Herein lies the answer to whether South Africa will develop an overt nuclear weapons capability and under what conditions its leadership would do so. The answers to these two questions in turn influence how such a capability impinges upon U.S. national security interests.

Analyzing the leadership's politico-strategic perceptions must begin with the world views of the Afrikaners (those of Dutch descent who control all the levers of power in that state), their views of international affairs, the structure of national security decision-making, and the presumed and expressed views of the role and effectiveness of nuclear weapons.

A. Afrikaner World View

The intellectual climate of South African strategic planning and decision-making begins with the Afrikaner view of the world. Basically, this considers the Afrikaners as a solitary Christian community increasingly pressed by a broad range of hostile external forces, forces which originate from among non-Afrikaners in the country and from outside the country. Communism is, of course, central among these forces. But Afrikaners often link Communism to elements of Western social life which they perceive as weakening individual and communal fibre and contributing to the international successes of Communism, materialism, securlarism, and liberalism. [1]

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[1] For an especially coherent example, see Alexander Steward, The World, The West and Pretoria (New York: David McKay Company, 1977).

This profoundly insular and dogmatic world view has been strained of late by the impact of urbanization and opportunities for overseas travel. Nonetheless, it remains widely propagated in all Afrikaner institutions--schools, churches, universities, and the media. More importantly, for our purposes, it remains the underlying influence on official decision-making. Its impact is partially masked and partially diluted by political discourse which has been more realistic in its appraisals and by decision-making structures which provide greater rationality or pragmatism than was apparent in earlier South African governments.

The central question for our inquiry is which strand--the long-established, dogmatic one or the new, realistic one--would dominate in a period of great stress, such as that in which the government would consider the possible display of a nuclear weapon capacity.

B. Foundations of South Africa's Politico-Strategic Perceptions

South African leaders derive their politico-strategic perceptions from two general sources. The first is their overall cultural and educational background, which has been heavily influenced by the dogmatic character of Afrikaner social science at the university level. Only since the late 1960s and only on a limited basis have social science studies been treated with genuine intellectual openness. Even now the teaching of political science and international affairs in Afrikaner universities is intimately linked to the teaching of political philosophy, which in turn is intimately linked to an extraordinarily conservative theology. With very few exceptions, Afrikaner professors stick closely to this framework. Their writing and their teaching are preoccupied with moral issues and take a very narrow view of acceptable or necessary change.

Virtually all officials who completed their university education before the early 1960s, i.e., those over the age of forty, come from a dogmatic intellectual perspective. This is of central importance since these men

dominate South African security policies. Those officials who completed their studies more recently--the younger set--normally occupy middle-level posts, though a few have moved into pivotal staff positions in the Defense Force, the Department of Foreign Affairs, the Department of Finance, and the Department of Cooperation and Development, among others. If present efforts to revitalize the public service maintains its momentum, a larger infusion from this younger generation is likely. The consequential shift in views and attitudes would become significant.[1]

But in the critical near-term future, the older generation will dominate the decision-making apparatus. Although these individuals appear to be remarkably free of the quasi-religious rhetoric and assumptions characteristic of Afrikaner Nationalist politics during the 1950s and 1960s, they are nonetheless doggedly committed to traditional values. Outright racism is seldom manifested, but antipathy remains to policies construable as liberal, individualistic, or materialistic. The most determined or verkrampte elements articulate their reservations about change most explicitly, but similar concerns are less coherent and less articulated by most Afrikaners.

C. Key Politico-Strategic Perspectives

One partial exception to this generational pattern, and an important one, lies in the defense establishment. South African general officers are evidently more open-minded in their views than many colonels and majors. This is in large part due to the opportunities for their training in the U.K. or the U.S. open to the older generation. Younger officers have

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[1] "Civil Service Reform: Bringing in the Experts," Financial Mail (Johannesburg), 22 June 1979, pp 1043-1045; also, "Public Service Cut to 22 Departments," The Star (Johannesburg), international airmail weekly edition, 8 December 1979, p. 3.

been confined to South African military training, which has become increasingly systematic in its articulation of the traditional world view.[1]

Official perceptions in general are influenced in South Africa, as elsewhere, by the small cadre (20 or so) of international relations specialists who teach, publish in South African newspapers and journals, speak on radio and television, and lecture in military training institutions. Loyalty to Afrikaner Nationalism is the critical criterion for intellectual authority, a criterion which dismisses those who are neither Nationalists nor Afrikaners. The "unacceptable" specialists share the media and military training facilities--especially the joint staff course which is the centerpiece of general staff training at the Defense College at Voortrekkerhooget, a course now also open to high-level civilian officials. But they do not get professorial appointments in Afrikaner universities or in the black universities whose social science studies are also still dominated by politically-reliable Afrikaner Nationalists.

These scholarly Afrikaner Nationalists influence--or more accurately, reinforce--official Afrikaner Nationalists on the Republic's immediate priorities. Basically, the politico-strategic perceptions go as follows: South Africa can no longer afford illusions about Western sympathy or support. Rather, the priority is to prepare the state to stand alone in an increasingly threatening environment. Officials share a deep antipathy toward the U.S. government, especially the current leadership, believing it cynical in its moral positions and naive in its appraisals of the Communist global threat. Two time-honored rhetorical themes--total response to total onslaught, and winning the minds and hearts of the people--have, under the current government in Pretoria and for the first time emerged as the touchstones of government policy.

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[1] See, for example, Lt. Gen. J. R. Dutton, "The Military Aspects of National Security," pp 100-121, in Michael H. H. Louw, ed., National Security: A Modern Approach (Pretoria: Institute for Strategic Studies, University of Pretoria, 1978).

The first key concept of total onslaught comes from conservative political analysis in Western Europe and in the U.S. But it is augmented to a great degree by the special Afrikaner notion of potential apocalypse inherent in surrender to the malevolent forces at work in the world. Andre du Toit describes the importance to Afrikaners of "the divine calling and special destiny of the Afrikaner people...this sense of being a chosen people was revived and codified in a particular interpretation of Afrikaner history." He relates "the significance of certain central themes such as the prominence given to a cycle of suffering and death..." [1]

Examples of this type of outlook by the Afrikaners abound in their literature. To show its depth and conviction, we need only quote D.F. Malan, a future Prime Minister, who said in 1942:

> It is through the will of God that the Afrikaner people exists at all. In His wisdom He determined that on the southern point of Africa...a People should be born who would be the bearer of Christian culture and civilization. He surrounded this People by great dangers...God also willed that the Afrikaans People should be continually threatened by other Peoples. There was the ferocious barbarian who resisted the intruding Christian civilization and caused the Afrikaners' blood to flow in streams. There were times when as a result of this the Afrikaner was deeply despairing, but God at the same time prevented the swamping of the young Afrikaner People in the sea of barbarianism.[2]

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[1] Andre du Toit, "Ideological Change, Afrikaner Nationalism and Pragmatic Racial Domination in South Africa," in Leonard Thompson and Jeffrey Butler (eds.), Change in Contemporary South Africa (Berkeley: University of California Press, 1975), p. 30.

[2] Quoted in T. D. Moodie, The Rise of Afrikanerdom (Berkeley: University of California Press, 1975), p. 248.

The second key concept, winning the hearts and minds of the blacks and coloreds, originated in the Defense Force's civic action projects in Caprivi and Ovamboland. It has increasingly come to dominate Afrikaner thinking about the entire range of domestic programs affecting blacks. This approach is reinforced by the panoply of economists, businessmen, and those few officials with economics training who have been concerned about the need to stabilize urban black workers if the South African economy is to continue its growth.

D. The Utility of Nuclear Weapons: Speculation

The preceding world view bears directly on South African nuclear policies. For Pretoria's overall thrust towards self-reliance has probably accelerated that government's longstanding effort to develop a nuclear weapons capability. Yet more important than that capability's existence, are the circumstances under which South Africa might decide to demonstrate that capability. With one exception--though an important one, as described at length later--top-level Afrikaners skirt any discussion on the advisability or utility of nuclear weapons. Hence, the role of South African nuclear weapons leads to the following conclusions:

- At the minimum, a nuclear device could serve as a "weapon of last resort" in an ultimate crisis. If survival of Afrikanerdom were truly threatened, deployment of such a weapon could render a measure of hope, buy time, or destroy some of the opposition as they destroy the Afrikaner people. Targets in this regard would include areas of fiercest combat within or on the borders, enemy camps or bases in neighboring states or capitals of those countries providing sanctuaries and/or forces.

- Short of this worst-case scenario, nuclear weapons could help against a large-scale conventional buildup--to break up a concentration of conventional forces against South Africa's industrial and population centers. While potentially helpful, this contingency is rather remote; such a concentration of enemy forces would be vulnerable to devastating conventional retaliation by South Africa, without any need for its military forces to go nuclear.

- Relatively small and clean devices, those with sophistication and reliability, could be used in tactical battlefield situations. South Africa has the scientific and technological sophistication to produce such weapons and may in fact be doing so at present. But they would have to be small and clean; otherwise, the fallout and effects would damage white population centers.

- More probably, nuclear weapons could be set off during combat to constitute a frightening deterrent against further actions which endanger Afrikaner survival. In this instance, the "target" may be some remote and uninhabited area, such as the middle of the Kalahari Desert--hopefully far from any people with damage limited to cacti. Still, such a blast would have a momentous effect on the opponent's morale and even tactics to a degree far greater than that provided either by rumor that Pretoria possessed the bomb or a statement that the government was, if further provoked, about to deploy it.

- At the worst case, South African nuclear weapons might be employed against Soviet forces only to the extent that Soviet forces might be advising or supplementing Marxist forces of Angola, Zimbabwe or Mozambique should such forces invade South Africa. Additionally, it is possible South African nuclear ASW weapons could be used against hostile but "unidentified" submarines attacking shipping near the Cape routes.

Looking only at the military dimension misses the even more critical political and psychological dimensions. While officially silent on the military utility of nuclear weapons, South Africa communicates loudly through its actions that it well understands the political ramifications of atomic weapons.[1]

South African officials may not have staged the 1977 "bomb scare" or the 1979 "flash." But no doubt they have benefited from them, for they thereby avoided as blatant an act of proliferation as India a few years ago, yet sparked a cacophony of rumors which accomplished real results. Afrikaner hardliners were consoled in their belief that the government has the capacity to create a nuclear bomb, if not possessing the weapon already.

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[1] See our earlier SRI/SSC study, "Monitoring Nuclear Proliferation," op. cit., pp. 96-97.

Western leaders were handed a shock in return for all the rhetorical shocks they have doled out to the Afrikaners. After the dust settled, the West even seemed pleased by its alledged ability to wrench a pledge from Pretoria. In August of 1977, President Carter stated: "South Africa has informed us that they do not have and do not intend to develop nuclear explosive devices for any purpose, either peaceful or as a weapon...and that no nuclear explosive test will be taken in South Africa now or in the future." Those black Africans taking such words at face value could rest easier, confident that the apartheid regime would not resort to nuclear weapons and that Africa would consequently remain free of nuclear weapons. Those black Africans not so trusting received a new infusion of fear for the might of Africa's white tribe, trembling precisely as the Afrikaners would wish them to tremble.

E. The Utility of Nuclear Weapons: One Voice

The sole window of insight into high-level thinking on nuclear strategy has come with the elevation of Dr. Lukas Daniel Barnard to the key post of head of the Department of National Security (DONS), formerly known as BOSS (Bureau of State Security). This appointment means, firstly, that Dr. Barnard's clear and sharp views on international affairs are widely shared among the leadership which appointed him, otherwise he would not have been chosen; and secondly, that those views will henceforth receive a complete hearing in the inner circles of the national security apparatus.

Though only 31 years of age, Dr. Barnard has written extensively since becoming a professor at the University of the Orange Free State. His writings include his 1975 dissertation, aptly entitled The Power Factor in International Relations, which clearly reflects his intellectual indebtedness to Dooyewierd, a Dutch philosopher who considered all areas of life directly under the authority of the Kingdom of God. Such a Christian state, he taught and Barnard reflects, must be militarily prepared and must not recoil from waging necessary and just war as the occasion arises.

Dr. Barnard is quite explicit in his admiration of just force. His writings are filled with Biblical illusions to "the sword of God" and advocacy for swaardmagsanksie or "sword-power sanctions." In one of his early essays, he writes: "In world politics fragmented by sin, the sword must always be applied justifiably for the punishment of evil. The attitude that the Christian state may never take up the sword and must suffer for justice is dangerous cowardice." [1]

Such righteousness often defies world opinion: "To always set one's sails to the wind of ludicrous world opinion with its pathetic double ethical pretentions is to pawn constitutional sovereignty to the terrorists." [2] And Dr. Barnard's contempt, or more accurately, his regret for the West comes out as well. Writing on the 1975-76 Angola crisis, he concludes: "The West is so unimaginative with its pragmatic ad hoc strategic and diplomatic negotiations that it is constantly forced on the defensive. In international politics, whoever is left continuously plugging defensive holes will, in the long run, have no answers left to the sly spectrum of aggressive mechanisms that the communist revolutionary brain can think up." [3]

Dr. Barnard's most original and, for our purposes, important writings bear upon the nuclear question. He has been surprisingly frank on this usually hushed topic. His main piece in this area, entitled "The Deterrent Strategy of Nuclear Weapons," like the others, is written in Afrikaans solely for home consumption. Also like the others it starts theoretically--with references to leading American strategists--and then brings the argument down to South Africa's situation. He believes that South Africa can no longer rely upon the West for its security, partly because Westerners

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[1] "Theoretical Approach to International Relations," Tydskrif Vir Christlike Wetenskap, Vol. 10, 1st Quarter (1974), pp. 26-44.

[2] "International and Urban Terrorism," Tydskrif Vir Christlike Weterskap, Vol. 13, 1st Quarter (1977), pp. 13-30.

[3] "Angola in the International Power Constellations," Journal For Contemporary History and International Relations, Vol. 2, No. 1, (March 1977), pp. 66-86.

oppose the racial system there and partly because they are themselves weak, in will if not in capabilities. "The Western states, which we always thought to be allies, are being threatened by the greatest leadership crisis and undermining of moral nerves since the Second World War."

Because of Western weakness, South Africa would be wise not to rely upon alliance, even if such were available (which he recognizes is not). History, Dr. Barnard writes, delivers "few examples where states wanted to seek protection of an alliance under the wings of weak or vacillating countries." This leads to his belief that obtaining nuclear weapons would not add to South Africa's already considerable isolation in the world; thus the costs of obtaining this capability to him are minimal. And the rewards would be significant, for South Africa could well be attacked in some type of communist onslaught. The U.S., he points out, did not shirk from using atomic weapons against the Japanese and the Kremlin certainly has fewer reservations about using any weapons against the Afrikaners. Since he believes the threat against South Africa to be growing over the years, he advocates preparation, including developing a nuclear weapons capability immediately, for when the onslaught comes, it will be too late.

The value of nuclear weapons, writes Barnard, lies in their deterrence. This in turn relies upon the perception of that capability. Hence, to him, South Africa must not only develop nuclear weapons, but must also announce to the world and convince the world that it possesses such capability.[1]

Whether Dr. Barnard's proposal for clear notification of a nuclear weapons capability will become announced policy or not is impossible to tell. But it is safe to say that it is very close to official policy, if not identical with it. Indeed, the leadership may believe that the twin revelations of the alleged Kalahari Desert test site and the satellite-detected "flash" have conveyed that "notification" Dr. Barnard advocates.

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[1] "The Deterrent Strategy of Nuclear Weapons," Journal for Contemporary History and International Relations, Vol. 2, No. 2 (Sept 1977), pp. 74-97.

F. South African Decision-Making on Security Affairs

The final aspect that needs to be examined to determine when and under what conditions South Africa would or will possess a covert or overt nuclear weapons capability involves the decision-making process. This process often leads to--or at least heavily influences--product or policy.

Since the end of 1978, South Africa has undertaken basic changes in governmental structure in order to enhance both its decision-making process and implementation of decisions once made. Support for these changes is widespread among National Party caucus members, civilian and military officials, Afrikaner businessmen, academicians, journalists and even among non-Afrikaners.

The long-dormant State Security Council, established in 1970, has been revived and given both an explicit membership and explicit functions. Simultaneously, the office of the prime minister has been given a sharply increased budget for additional staff and new Director-General, J.E. duPlessis, who is responsible for the coordination of policy implementation. He performs this function as Chairman of a Director-Generals Committee and carries the Prime Minister's authority to ensure coordination within the committee. This new structure may remedy past errors arising because officials were poorly coordinated and quite able to thwart top-level decisions when they wished.[1]

In the Director-Generals Committee, the Defense Force, the South African Police and DONS are represented by their heads, General Magnus Malan, General M.C. Geldenhuys, and Professor Barnard, respectively. In addition, senior military intelligence and security branch officers have been assigned to staff positions in DONS in order to strengthen coordination between their departments and DONS.[2]

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[1] Heribert Adam and Herman Giliomee, Ethnic Power Mobilized: Can South Africa Change? (New Haven: Yale University Press, 1979) gives too much weight to bureaucratic inertia (see chapters 7 and 8). For a similar view, see Stanley Uys, "Seen from the Outside," Financial Mail, 29 February 1980, p. 833.

[2] The Star, International edition, 19 January 1980, p. 5.

Finally, the head of DONS, Dr. Barnard, now reports only to the Deputy Minister for Defense and National Security, H.J. (Kobie) Coetsee. This eliminates the direct back-channel liaison of the former BOSS director, General van den Bergh, with the Prime Minister, then John Vorster.

What this all means in terms of power is that Prime Minister P.W. Botha would be unlikely to have as much dominance over security affairs as his predecessor, John Vorster; he could not singularly order an Angola-type incursion as did Vorster in 1975. Decisions in the security realm will be carefully weighed, along with foreign policy and economic policy priorities. General Malan will surely carry much sway. J.E. du Plessis's role will give him considerable authority, especially with the Prime Minister's full backing. Dr. J.H. de Loor, Director-General for Finance, may carry extra weight because of his vast international experience and considerable grasp of economic issues. Brand Fourie, Director-General for Foreign Affairs and Information, has equivalent experience and may consequently gain authority. Lukas Barnard's youth and lack of governmental experience will work against his influence among men with long official tenure and for whom deference is a concomitant of age and tenure.

What this all means in terms of policy output is that pragmatism in the security realm is sure to gain and dogmatism consequently to wane. The new structure will tend to encourage incremental policy decisions, in which varying combinations of conventional military powers, internal security resources, and regional economic leverage will be brought into play on any international problem. This incremental policy will differ from earlier regional policies--the outward policy, dialogue, detente--which were erratic in implementation and soon lost in apparent disinterest.[1]

The key ingredients of an incremental and sustained regional policy in South Africa are sure to include: economic leverage as both an incentive and a deterrent; preemptive strikes against guerrilla bases and harsh

[1] James P. Barber, South Africa's Foreign Policy, 1945-1970 (London: Oxford University Press, 1973).

internal security measures against guerrilla bases and supporters so as to prevent buildups in their force and supply capabilities; attacks on infrastructure and basic economic structures in neighboring black states lending assistance to black opponents so as to make them keep control over guerrillas going into Namibia or South Africa; and continued diplomatic efforts to enlarge Western governmental support, with the ultimate goal a security agreement against the threat of a direct attack against the Republic.

These tactics will be adequate for the coming years to cope with regional attacks and unrest within the country. Only if the Afrikaners perceive themselves to be in serious danger of survival would their officials almost predictably resort to the use of nuclear weapons.

But that point of self-defined crisis is not so far off as one might expect on the basis of the objective factors because of the Afrikaner Nationalist instinct for morbid contemplation of threats. Maintaining control of change in both territories (Namibia and South Africa) will remain the highest of all governmental priorities. So long as the government in Pretoria perceives itself in control, it is unlikely to shift from the sequence of conventional instruments of influence outlined above to those of nuclear instruments.

But the self-perception of control and the realities of control may not always coincide. Although the South African government is keen at assessing the military and economic weakness of black neighbors, it is nonetheless woefully inept at evaluating the feelings of its own black citizens. An unpredicted, sustained internal revolt could bring Afrikaner decision-making to the brink of apocalyptic perceptions, but even this is unlikely anytime soon given the South African capability to contain urban rioters almost at will.

Only if internal revolt coincides with massive conventional invasion would the resort to nuclear weapons become necessary. In those circumstances --probably before the invasion itself, in order to discourage black governments' support--South Africa might use its potential nuclear capability. The demonstration of it then become increasingly possible, as indications of a

threatening internal and external environment become increasingly apparent. Dr. Bernard's argument may then appeal to his colleagues, who undoubtedly share his appraisal of black governments' inability to withstand even the threat of South African force.

G. Conclusions: South African Overt Nuclear Weapons Capability

Pulling all these various factors together, we can offer some conclusions as to when and under what circumstances South Africa might have an overt nuclear weapons capability.

The "when" can initially be answered quite simply: any time the Afrikaner officials deem it essential for their people's survival and their state's security. The critical element here is not technology--when South Africa would possess the know-how and the materials to develop nuclear weapons--but rather the politico-strategic perspectives of the rulers.

Given this fact, it seems most probable that the leadership would display a nuclear weapons capability sooner than one might otherwise expect or, indeed, sooner than might seem warranted by those on the outside world. This is true for several reasons.

First, the geo-strategic environment of South Africa is unmistakably slipping. With the recent rise to power of the third Marxist regime in the region (in Zimbabwe), the Afrikaners feel increasingly threatened, as indeed they are. This feeling began with the April 1974 coup in Lisbon which led to the removal of the white colonial barrier stretching from Angola to Rhodesia to Mozambique. In addition, black consciousness within the Republic is also unmistakably rising. Hence the serenity South Africa enjoyed both within the region and within the country between the early 1960s and the mid-1970s is unlikely to be replicated anytime in the foreseeable future.

Second, Western attitudes have generally solidified to the point where no Western government could readily assure South Africa's security, unless in the most extraordinary of times. This the Afrikaners readily appreciate, as manifest in their drive for self-reliance in the security realm and indeed in the economic and political realms as well. Even with the advent of a more conservative government in the United States as well as in London, the political realities are such that any Western security guarantee for South Africa would be exceedingly difficult to extend and would lack sufficient credibility even if extended.

Third, Afrikaners tend to adopt a more dismal, apocalyptical view of the world than most other peoples. As explained above, this is due to their difficult, indeed tragic history on the continent and to their staunch Old Testament theology. Regardless of cause, however, the consequence is a politico-strategic outlook by Afrikaners that portends the worst. They envision a threat even more ominous than that which most outside observers would envision. This politico-strategic outlook would tend to encourage the resort to the mightiest possible military--including one with the ultimate of weapons--to deter or to defeat that threat.

Balancing this world view would be the South African governmental structure. As recently reorganized and as described above, the decision-making and decision-implementation processes of government will henceforth induce greater moderation and caution in security affairs. Yet structure is often superseded by personality, and the personalities of top South African officials are still dogmatic and exceedingly security-minded.

Fourth, the top leadership now includes a fervent proponent for a South African nuclear capability, and an open, credible, clear capability at that. As mentioned above, Dr. Barnard's views on this most sensitive and critical of issues must have been acceptable to the leadership to allow him to head up the Department of National Security. Moreover, his participation in the highest councils of government now give that position forceful representation.

To these four factors it must be added that South Africa's policies on nuclear weapons will be made fairly independently of any U.S. security interests. Whether to develop and display a nuclear weapons capability will depend almost entirely upon the Afrikaners' sense of domestic and regional security. It will not depend upon superpower relations, an onset of conflict in the vital Persian Gulf regions, or any other global considerations. On the other hand, a continuing adverse U.S. strategic credibility in the face of still expanding Soviet power would be a major consideration in the minds of the Afrikaners.

Though South Africa will make that decision for its own parochial purposes, this does not mean that such a decision would not affect U.S. national security interests. Indeed, it will do so in a number of ways discussed at length and in depth in the following sections.

IV THE EFFECT OF SOUTH AFRICAN PROLIFERATION ON WESTERN ECONOMIC INTERESTS

To gauge the effect of an overt South African nuclear capability upon American security interests in general, it is essential to spell out those interests clearly. This will be done in regard to American and Western: a) economic interests in terms of loans, trades, and investment; b) mineral interests in terms of open access to South African and indeed African strategic resources; c) political interests in terms of general relations throughout the continent as well as on its tip; and, most importantly, d) maritime interests in terms of the flow of essential resources, including oil, around the Cape of Good Hope.

After concise presentation of these four American and Western interests in South Africa, analysis will be offered as to how these interests would be affected by South African proliferation.

A. American Economic Interests

U.S. investment in South Africa is placed between $5 billion and $6 billion: $1.8 billion in direct investment; $2.2 billion in private bank loans; and almost $2 billion in portfolio investment (primarily gold stocks). This investment, over 20 percent of total foreign investment in that country, is concentrated in the computer industry, transportation, energy, and steel.

Since 1960, U.S. investment in South Africa has spiraled tenfold in volume and almost twofold in percentage of total foreign investment.[1]

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[1] For further analysis see William N. Raiford, South Africa: Foreign Investment and Separate Development, Issue Brief No. 11378078, Congressional Research Services of the Library of Congress, February 16, 1979.

The bulk of American investment in South Africa comes from "Fortune 500" firms. A mere four corporate giants--General Motors, Mobil, Texaco, and Ford--account for half of all U.S. investments there; of the top 50 American corporations, 29 have operations in the Republic.

In spite of the passionate drive among religious and university groups in the West for divestiture, U.S. firms plan to increase their capital investments in South Africa by some $277 million in 1980 as compared to $230 million in 1979. This estimate by the U.S. Department of Commerce would constitute a rise of 20 percent. It is largely attributable to increased investments in the mining sector, particularly in large uranium projects just beginning. Also increased will be American loans to South Africa, which already constitute some one-third of South Africa's total foreign debt.[1]

U.S. commercial involvement in South Africa is increasing for the simple reason that business is good there. During the period of Western economic slowdown in 1977 and 1978, the return on investment for American companies there was an impressive 10 percent, again according to Commerce Department figures. Some companies, like the auto industry, have been hit hard by declining sales, but others such as mining, computer, and electronics sectors have been growing at a substantial 20 percent clip.[2]

In spite of the profits and the increases on top of the already sizable dollar investments and loans, South Africa represents a minuscule 1.12 percent of total U.S. private direct investment overseas and received only 1.25 percent of the total foreign loans written by U.S. banks. U.S. firms employ less than 1 percent of the black South African work

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[1] Africa Confidential, December 15, 1979.

[2] Desaix Myers III and David Liff, "The Press of Business," Foreign Policy, No. 38 (Spring 1980), p. 148.

force. For American companies which are involved there, South African operations are measly, representing under 1 percent of total assets, sales, or profits.[1] In short, U.S. investment in South Africa is of some, though not of major, importance.

Trade with South Africa, though likewise small, has been rising of late. In 1976, the U.S. sale of $1.3 billion--mostly in transportation equipment, chemicals, computers, communications equipment, and aircraft--represented some 1.5 percent of total U.S. exports. America's long-time favorable trade balance with South Africe has disappeared with the soaring price of minerals. In 1978, American imports from South Africa totaled $1.5 billion while U.S. exports amounted to $1.2 billion.[2] Given the continuing high price of minerals and the continuing American reliance on South Africa's supply, it could have been anticipated that U.S. purchases from South Africa would climb by nearly 70 percent from 1978 to mid-1979.

B. European Economic Interests

European economic interests are far more substantial. Europe provides South Africa with the bulk of its commercial links with the rest of the world. South African trade with the EEC (which has a total GNP of $1 trillion) is at least three times that with the U.S. (whose GNP is $1.5 trillion). Consequently, European economies would suffer far more than the American economy from any disruption in trade with South Africa. It is for this reason that the Europeans have been resistant to any types of economic or political sanctions against the Republic. As recently as March 1980, it was announced that "none of the EC partners is in favor of an oil boycott of South Africa by the EC."[3]

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1 For further analysis see U.S. Senate, U.S. Corporate Interests in South Africa, Report to the Committee on Foreign Relations, Subcommittee on African Affairs, January 1978, pp. 1-14.

2 Financial Mail (Johannesburg), April 20, 1979, p. 211.

3 "EC Not Receptive to Oil Boycott Against South Africa," U.S. Department of Commerce, Foreign Broadcast Information Service, Daily Report, Western Europe, March 27, 1980, p. B-1.

Britain has the most at stake. At least 10 percent of all British direct foreign investment is located in South Africa.[1] The most successful British industries depend most heavily on South Africa. In such sectors as electrical machinery, plastics, and motor vehicles, the South African market takes between 6 percent and 9 percent of all British exports. Many of these industries are "among the all too few British industries which do not seem marked for extinction, either by Japanese or LDC price competition or by U.S. or German high technology."[2] The British Association of Industries estimated that a trade boycott of South Africa would increase British unemployment by at least 70,000 persons and wipe out an export market worth nearly $1 billion per year--neither of which the lame British economy could easily carry.

C. The Importance of Outside Interests to the South African Economy

From Pretoria's vantage point, foreign economic interests are highly significant. Indeed, foreign investment is said to have been responsible for one-third of that country's economic growth rate in recent years. Hence, a top economic advisor, Simon Brand, dubbed the international companies as the "engine of growth" for the South African economy. The petroleum market, automobile industry, and a computer manufacturing sector are all dominated by multinational corporations.[3]

D. The Effect of South African Proliferation on Economic Interests

An overt nuclear weapons capability would adversely affect Western economic interests in South Africa in two respects.

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[1] U.K. Ministry of Trade and Industry, Trade and Industry, February 25, 1977, p. 532.

[2] Lawrence G. Franko, "The European Stake in South Africa," The Washington Quarterly, Vol. 2, No. 2, (Spring 1979), p. 88.

[3] Myers and Liff, op. cit., p. 148.

First, a display of such a nuclear capability would most likely accompany and reinforce the perception of a rising security threat to the Republic. American and European companies, already somewhat wary of becoming heavily involved in such a seemingly precarious political and military state, would shy away further. Many of these firms would actively divest themselves of their holdings in South Africa so as to minimize the anticipated losses. South Africa's credit rating and rating for international investment would plummet, as it did immediately after the Sharpeville massacre of 1960 and the Soweto uprising of 1976. This time, such a rating would probably dip further and stay lower for a longer period than was the case in the past, again because of South Africa's overall declining strategic environment.

Second, with the advent of a nuclear weapons capability there, resistance to private investments and loans to South Africa would rise enormously in Western states. This would be true whether Pretoria displayed such a capability in times of relative tranquility--as advocated by Dr. Barnard--but even more so if displayed in times of relative turmoil. The religious and university groups within Western countries already have a substantial backing to cut all economic (or any other) ties with the racist government in South Africa. Given the passionate American and European feelings against further nuclear proliferation anywhere in the world--on top of the passionate abhorrence of the apartheid system--the divestment drive could well prevail if South Africa displayed a nuclear device.

This would injure American economic interests, but only to a minimal extent. As explained above, U.S. investments, loans, and trade there are quite minor in terms of total U.S. overseas economic interests. But the same cannot be said for Western Europe, and particularly not for Great Britain, whose economic ties to South Africa are extensive. South Africa's going nuclear would severely damage European economic fortunes and, even more so, the economic welfare of the Republic itself. This in turn must be an important factor discouraging the Afrikaner leaders from openly displaying a nuclear weapons capability.

V THE EFFECT OF SOUTH AFRICAN PROLIFERATION ON WESTERN INTERESTS IN ACCESS TO STRATEGIC MATERIALS

It has long been true--though only recently has it been widely recognized--that the United States and indeed all industrialized democracies rely heavily upon overseas resources. Western economies and the manufacturing support base for their national security is increasingly dependent upon critical materials from the Third World.

The vital importance of access to mineral supplies is best summarized by Amos Jordan and Robert Kilmarx as they discussed the "major difficulties ahead in insuring reliable, adequate raw materials" to the industrialized world:

> Among these problems is, first, the high contration of certain critical raw materials in a limited number of countries of questionable reliability or physical security from the perspective of the eastern industrialized nations. Second, political instability or hypernationalism in many minerals-exporting countries create an inhospitable climate for minerals investment and operations, making it likely that production capacity will lag behind increasing demand. Third, steeply rising costs of minerals projects and operations, as well as increasing problems associated with raising sufficient investment capital are also contributing to shortfalls in needed minerals investment rates. Fourth, increasing cartelization efforts and movements toward international buffer stocks and price stabilization measures are creating distortions in minerals producing and consuming sectors.[1]

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[1] Amos A. Jordan and Robert A. Kilmarx, "Strategic Mineral Dependence: The Stockpile Dilemma," (Beverly Hills/London, SAGE Publications, 1979, The Washington Papers No. 70), p. 10.

Relating these overall Western interests to South Africa, we find a heavy reliance as illustrated in Table 1 on the following page.

A. American Resource Interests in South Africa

Relating this interest specifically to U.S. national interests, we find that America currently obtains 56% of its vanadium imports from South Africa; 44% of its antimony; 30% of its chromite ore; 27% of its gold; 33% of its platinum group requirements; and 10% of its manganese. Chromite, vanadium, and antimony are crucial to the production of alloyed steels because of their anticorrosive properties and are essential in high-technology industries. Substitutes are not currently available for any of them. Outside of South Africa and Zimbabwe, the only known major deposits of chromite, vanadium, manganese, and platinum are in the Soviet Union. The only known substantial reserves of antimony are in China.

Chromium is probably the most critical of the critical materials, and the one over which South Africa holds most dominant sway. The U.S. imports 89% of its chromium, with about one-third of its chromite and just over one-third of its ferrochromium coming from South Africa. World resources of recoverable chromite are estimated at 18 billion tons (16 billion in South Africa), sufficient to meet any conceivable demand for centuries. Although some materials can occasionally be used as a substitute, the National Materials Advisory Board concluded in 1979 that

> No substitutes exist or are likely to be developed for chromium in the high-strength steels, high temperature metals and corrosion-resisting alloys that are essential in the manufacture of jet engines, petrochemical and power plant equipment, and various other critical products.[1]

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[1] National Materials Advisory Board, Contingency Plans for Chromium Utilization, (Washington, D.C.: National Academy of Science, 1978), p. 2.

TABLE I

SOUTH AFRICA'S MINERAL IMPORTANCE TO THE U.S.

Mineral	South Africa % of world production-1977	South Africa % of world reserves-1978	U.S. net import reliance (% of consumption 1977)	% of U.S. imports (1973-76) from S. Africa
Antimony	17%	5%	52%	44% (ores) 41% (oxide)
Asbestos	7%	5%	85%	3%
Chromium	34%	81%	89%	30% (chromite) 34% (ferrochrom.)
Diamond (gems & industrial)	20%	21%	100%	23%
Gold	57%	51%	60%	27%
Manganese	23%	78%	98%	10% (ore) 32% (ferromang.)
Platinum-Group Metals	47%	75%	92%	33%
Uranium (for Western World only)	11%	18%	None	--
Vanadium	37%	49%	37%	56%

Sources: Financial Mail (Johannesburg), September 28, 1979, "Mining Survey Supplement," pp. 10-13, and Bureau of Mines, Mineral Commodity Summaries, 1978, U.S. Department of the Interior.

And the Board warned:

> The United States is strategically more vulnerable to a long-term chromium embargo than to an embargo of any other natural resources, including petroleum...[1]

B. European and Japanese Resource Interests

What would constitute a grave danger for the U.S. in terms of mineral unavailability would constitute a real catastrophe for our allies. Their mineral dependence is far more acute than ours. While France gets 65% of its mineral imports from its former African colonies, the U.K., West Germany, and Japan are heavily dependent on South Africa for minerals. These countries also rely on Pretoria for uranium, in which the U.S. is self-sufficient. South Africa supplies over 40% of Japan's uranium requirements and is also becoming an increasingly important resource for France and Germany.

For the most part, black Africa is not a viable alternative source for asbestos, chrome, vermiculite, manganese, and antimony. The vast majority of all EEC mineral imports from Africa come from South Africa, as illustrated in Table 2 on the following page. Europe and Japan lack the strategic stockpiles held by the United States. Neither, quite understandably, would be comfortable with relying upon the Soviet Union for nearly all of its chrome, platinum, or gold. Nor are they content to count on the U.S. generously sharing its strategic stockpile with them in the event of disruption of South African supplies. For a variety of commercial considerations as well, Europe and Japan would be far more adversely disrupted by a cutoff of the South African supply than would the U.S.[2]

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[1] National Materials Advisory Board, op. cit., p. 16.

[2] Franko, op. cit., pp. 85-95.

TABLE 2

PERCENTAGE OF IMPORTS FROM SOUTH AFRICA

Mineral Commodity	EEC as a whole	United Kingdom	West Germany	France	Japan
Platinum group	24	37	--	22	38
Antimony	9 (ore only)	95	50	14	15
Vanadium	42	60	50	31	62
Chrome ore	--	30	29	17	37
Ferrochrome	31	15	43	20	87
Manganese ore	31	43	52	40	43
Ferro-Manganese	--	27	14	--	--
Asbestos	13	--	--	--	35

Source: Africa Confidential, January 17, 1979.

C. Soviet Strategy on Minerals

The Soviet Union is keenly aware of this minerals link. Indeed, Soviet interest in Africa began with Lenin's prediction that capitalism's demise would come as the West was cut off from Third World resources and markets, particularly those in Africa. The Soviet press and officials frequently mention a "strategy of denial," intended either to deny or credibly threaten to deny strategic minerals to the West. One Izvestia article, for example, tells how Africa's "abundant natural resources" form the base for Western economic and military strength. To survive, the West has "to keep Africa as a raw material reserve and market for the monopolies" since it is "imperialism's...strategic bridgehead."[1] This strategy of denial becomes credible when South African reserves are added to those of the USSR: for platinum group metals, vanadium, and manganese, the combined percentage of world reserves adds up to 99%, 97%, and 93%, respectively, and for chrome it is 84%.[2]

At times the Soviet Union has added some bite to its considerable bark by implementing elements of this strategy. It halted chrome shipments to the United States from the outbreak of the Korean War until the early 1970s. It manipulated the world cobalt market in June of 1978: two weeks prior to the second invasion of Shaba--which produces some half the Free World's supply of cobalt--the Soviet Union made major and unusual purchases, nearly cornering the entire cobalt market. This transpired even though the USSR possesses vast cobalt quantities of its own.

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[1] V. Kudryavtsev, "Plot Against Africa," Izvestia, August 14, 1976, as reproduced in Current Digest of the Soviet Press, Vol. XXVIII, No. 22, September 15, 1976, p. 1.

[2] Peter Janke, "The Soviet Strategy of Mineral Denial," Soviet Analyst, Vol. 7, No. 22 (November 9, 1978), p. 5.

The most recent display of Soviet attempts at this strategy likewise centers around cobalt. At the beginning of this year, the Soviet Union agreed to furnish at least $85 million worth of military equipment--including MIG-21s--to Zambia, allegedly for cobalt. This is important since Zaire and Zambia together possess nearly half of the entire world's cobalt. As Business Week concluded, "Soviet purchases of Zambian cobalt, no matter how small, are bound to disrupt the U.S. market. Cobalt supplies are tight and any Soviet diversion of Zambian exports would force releases from the national defense stockpile, which still is less than halfway to its original inventory objective."[1]

Even though the Soviets focus on this "strategy of denial," any realization of this strategy in terms of South Africa is quite remote. For one thing, a radical or even truly neutral government in Pretoria is extremely unlikely anytime soon. For another, mineral exports are so vital to that country's economy that a regime of whatever color or stripe would be forced to continue mineral production and exportation. Chrome, vanadium, and manganese--the minerals for which the U.S. is most critically dependent on South Africa--account for only about 5% of total South African exports. Yet mining as a whole contributes 13% to South Africa's GNP and its mineral exports are critically needed to finance imports of technological and consumer goods. The only significant market for these minerals lies in the West.

A black radical South African regime seeking to satisfy the accelerated social and welfare demands of the black population in education, health, and housing might, in fact, be more likely to expand its mineral exports than even the present white rulers. Their goals would necessitate increased demand for technology, capital, and foreign management of mineral

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[1] "The Soviets' New Foothold in Central Africa," Business Week, March 10, 1980.

resources. Given the Soviet Union's inability to subsidize a sophisticated economy, any South African government would have little choice but to turn to the West for trade, investment, and know-how. The recent history of the continued Western investment in and access to the mineral wealth of radical African states--Guinea, Congo-Brazzaville, Angola, and Mozambique--underscores the point.

We can summarize this section on Soviet strategy in the following manner: Denial of vital minerals from southern Africa for long stretches of time is far-fetched, depending as it does on an array of highly unlikely occurrences. But some type of disruption of the mineral market is possible. This has happened and is likely to happen again in the case of cobalt. More major disruptions would affect European and Japanese allies quicker and harder than the U.S., given their vaster economic reliance on mineral imports and their smaller stockpiles. Western and Japanese economies could suffer severe shortages, inflation, and unemployment, were this strategy to be implemented on a large scale. This would be the case whether the disruption were caused by the take-over of a radical black government or by an upward spiralling of internal unrest and/or guerrilla activity in white-ruled South Africa. Given the precarious economic conditions now prevailing in the West, these are serious considerations indeed.

D. The Effect of South African Proliferation on Western Mineral Interests

An overt nuclear weapons capability by South Africa would not directly affect Western resource interests. However this capability could indirectly affect such interests in important ways, depending upon American reaction to that open South African capability. Were the U.S. reaction too severe, then South Africa might retaliate. Were the U.S. deemed to react insufficiently severely, then northern and black African nations might well retaliate. Either way, the consequences would be grave.

To take the first contingency: Should Washington's reaction go from harsh rhetorical measures to concrete economic and other penalties for Pretoria, then South Africa could in turn respond. It could cut off critical minerals to the U.S., thereby halting metals key to high technology industries that are, in turn, key to American national security.

Admittedly, such a move would only be taken in a situation of extreme South African anger since it would incur considerable costs for Pretoria. Yet these costs have been downgraded in recent years by South Africa's broadening its exports to Western Europe and Northeast Asia where high technology industries are increasing apace. Besides, the soaring price of gold in recent years gives South Africa windfall earnings, making it less reliant upon the sale of other minerals.

Though certainly an extreme situation, it is not one that can be entirely dismissed--particularly for the defense planner whose task, among other things, is to examine extreme situations. For the South African leadership has become increasingly cognizant of its mineral resources and their criticality to the West. When mention was made of a possible U.N. economic embargo on South Africa two years ago, the South African Minister of Labor and Mines, Mr. S.P. Botha, told how his country was "sick and tired of the attitude the West has adopted toward it...the United States in particular." According to the authoritative Johannesburg International Service, the Minister went on most pointedly:

> Mr. Botha said the United States would have to begin to realize that in certain areas it was more dependent on South Africa than the reverse. Sixteen of the 33 minerals the United States needs most were imported from South Africa, and America would have to begin to realize that there were other buyers for these minerals.[1]

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[1] U.S. Department of Commerce, Foreign Broadcast Informations Service, Daily Report, Sub-Saharan Africa, 23 April 1978, p. E-7.

South Africa need not act alone in this regard. When discussing his concept of a southern African "constellation of states," Prime Minister P.W. Botha said that the states in the region "must accept that we have enough raw materials and material means to work out our own destiny." Two South African scholars on this topic interpreted this, and other related policy statements, to mean "that the countries in the region can use their mineral wealth as a bargaining counter in their foreign relations" since "they consider their raw materials to be vital to particularly the West..."[1]

To briefly offer two illustrations: Were South Africa to embargo chromite ore shipments to the United States, including the substitute ferrochromite, the remaining sources would be Zimbabwe or the Soviet Union itself. This would create a most uncertain and indeed precarious situation, given the finding of the National Material Advisory Board (fully quoted above) that the U.S. "is strategically more vulnerable to a long-term chromium embargo than to an embargo of any other natural resources, including petroleum."

Second is uranium. The Uranium Institute called South Africa the world's most reliable uranium producer and estimated that South Africa will supply some 14,000 tons per year by 1990, compared to its current annual production level of just under 9,500 tons. World demand is estimated to hit around 67,500 tons by mid-decade and some 90,000 tons by the next decade.

As explained in our previous report in this area, its large uranium reserves could permit South Africa to become a leader of a nuclear "pariah nation" network. For it can supply uranium ore currently and possibly

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[1] Deon Geldenhuys and Denis Venter, "A Constellation of States: Regional Co-Operation in Southern Africa," International Affairs Bulletin, Vol. 3, No. 3, p. 59.

enriched uranium subsequently to other nations without having to place these shipments under International Atomic Energy Agency controls. The prospect of South Africa becoming head of a nuclear OPEC cannot be lightly dismissed.[1]

The second overall adverse effect of an overt South African nuclear weapons capability could occur if the United States reaction were judged to be insufficient by northern and black African nations. Out of anger, they might well retaliate as they have the means to do so.

Here too, two brief examples are offered: It has already been mentioned that Zaire and Zambia possess nearly half the world's cobalt reserves; the Soviet Union has a fifth and its allies some as well. Hence, were the Soviets somehow to gain leverage over these two Central African nations, it would thereby control some 80% of the world's cobalt.

Second is the volatile issue of oil, in which Africa looms large. Nigeria, the world's seventh largest oil producer, provides nearly a fifth of U.S. crude petroleum imports and thereby ranks second only to Saudi Arabia. Africa, all told, furnishes close to 40% of crude oil imports or nearly 15% of the total American consumption. The continent's major producers--Algeria, Libya, and Nigeria--have high-quality light crude which makes for higher gasoline yields; their petroleum's low sulfur content make it more suitable in terms of U.S. environmental standards. Though Africa's total oil production has not increased greatly over the past five years, the American share of it has nearly doubled. Last year, the United States purchased more than half the oil pumped from wells in Africa.[2]

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[1] "Monitoring Nuclear Proliferation: A Case on South Africa," op. cit., p. 28 and p. 41.

[2] Richard Deutsch, "African Oil and U.S. Foreign Policy," Africa Report (September-October 1979), p. 47.

The threat of an oil embargo by these three African suppliers might be credible, were American response to a South African nuclear display not deemed sufficiently harsh. All three nations feel quite strongly about southern African affairs. Algeria and Libya are hostile to America during the best of times. Nigeria, which is generally cordial to the United States, feels keenest of any state about American policies in southern Africa. When it appeared that the U.S. Congress might remove the economic sanctions against Rhodesia in the fall of 1979, Nigeria issued thinly-veiled threats of just such an oil embargo. This threat cautioned many members of Congress and reinforced the Carter Administration in its determination to keep the sanctions intact.

In essence, American policy-makers would face a clear dilemma in the aftermath of a South African nuclear weapons display. U.S. officials would have to undergo careful analysis of the materials that might be lost if U.S. actions provoked South Africa to embargo its minerals coming here, and, on the other hand, those minerals that might be lost if the lack of U.S. actions provoked northern and black African nations to embargo their natural resources coming here.

Posing the issue in this manner exemplifies present U.S. sensitivity to economic blackmail for political purposes. The only solution lies in a prudent expansion of the critical materials stockpiles in such a way that would permit the United States government political leeway in the event of an actual embargo. It also requires a willingness by U.S. policy-makers to face the possible penalties involved should either or both materials embargo threats be executed against the nation. This, in turn, necessitates considering a range of potential American retaliatory threats or even actions to counteract the threat or act of materials or oil embargos.

VI THE EFFECT OF SOUTH AFRICAN PROLIFERATION ON WESTERN POLITICAL INTERESTS

Any analysis of American and Western relations with South Africa must encompass the political element. In many research studies, this is done implicitly. In others, it is done explicitly, which is preferable since the political factors are often the heart of the matter. To view South Africa solely as a powerful, minerally-endowed state occupying a certain geo-strategic territory is to miss its enormous global political importance.

Political considerations are more elusive than those discussed previously--trade, investment, access to strategic materials--and than that to be discussed subsequently--the importance of the Cape route. Nonetheless, these considerations loom large; South Africa as a racist state assumes importance in U.S. foreign policy and in world politics far beyond what its resources, trade, location, or population otherwise would warrant. Were its importance confined to these specific factors, then South Africa would be relatively neglected on the world stage or at least relegated to the third or fourth echelon of consideration. But South Africa's racist system makes this foremost a political consideration to the world as well as to black African countries. As L.M. Thompson so aptly put it, "To the rulers of new African states, South Africa is not just a foreign country with a different way of life. It is an anathema."[1]

American and Western political interests in this regard are twofold: first, diplomatic relations with black Africa, relatedly with the Third World and with the Republic itself; and second the overall political strategic goal of stability in the southern Africa region, here defined

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[1] L.M. Thompson, Politics in the Republic of South Africa (Boston: Little Brown, 1966), p. 200.

as the absense of large-scale conflict. Each of these two political factors will be discussed in this chapter.

A. African Diplomacy

Though economically and militarily paramount on the continent, South Africa is often an albatross hung around the neck of Western policy, more a liability than an asset. South Africa's participation in and support of American initiatives are sufficient to make such initiatives unacceptable to many black African states. As an actor in intra-African politics, Pretoria's influence is often limited to those areas in which it can assert raw physical power.

South Africa has been dubbed a continental power in search of its continent. Though somewhat an overstatement, the adage has a measure of truth to it. Pretoria's gross national product swamps those of other sub-Saharan states (except Nigeria), accounting for a quarter of the continent's total GNP. Its dole for defense constitutes a third of the total Africa military expenditures, and its forces are superior to those of any combination of possible continental opponents. Besides, it stands on its own in terms of armaments; the Arms Control and Disarmament Agency estimated that only 5% of its defense budgets in recent years was spent on imported combat equipment and components. South Africa possesses sub-Saharan Africa's only well-developed industrial economy, its only sophisticated financial and communications system, and its only broad managerial and technological expertise.

Yet Pretoria has been hamstrung from using its power to fashion its strategic environment. Its racial bigotry sorely undercuts its legitimacy. To other African states, South Africa stands as a living reminder of their own past subservience to white rule. The destruction of apartheid remains one of the sole points of consensus within the Organization of African Unity, however much the method and timing of its destruction remain points of contention.[1]

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[1] For further analysis see John de St. Jorre, A House Divided: South Africa's Uncertain Future (Washington, D.C.: Carnegie Endowment, 1977).

Though a political pariah, South Africa is no economic pariah. It trades feverishly with many African states. IMF data indicate that this trade represents 4.5% of South Africa's total imports and 11% of its total exports and is increasing. At least twelve black African countries are so economically dependent on Pretoria as to face near-ruin if the UN were to institute economic sanctions against the Republic. While the O.A.U. calls for such sanctions, some twenty O.A.U. member-states trade with South Africa daily and 44 have more occasional trade. One estimate shows that 150 million black African lives throughout the continent are touched by South African goods daily.[1]

South Africa stands supreme economically in its own region, as it accounts for more than 70% of the regional GNP. Botswana, Lesotho, and Swaziland are economically integrated into the Republic; participants in a customs union; and dependents for aid, investment, food, and expatriate skills. Almost 80% of the Republic's mine labor--about 300,000 men--has come from neighboring states, recently this has fallen by more than half. Some 60% of Mozambique's foreign exchange earnings--from miners' remittances, fees paid to Mozambique's rail and harbor systems (which handle more than 15% of South Africa's exports), and the sale of hydro-electric power from Cabora Bassa--has been derived from South Africa. Zambia's reliance on the Republic for transit of its mineral exports and for imports of technical and consumer goods and local stuffs has skyrocketed over the past year, as has Zaire's for a means of getting its copper off the continent. Large assistance is given by Pretoria to Malawi's maverick government; landing rights for South African Airways have been secured in the Ivory Coast and in Zambia; and South African products can be found far to the north, e.g., in Gabon and Zaire.

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[1] Daniel Drooz, "Africa Riddled with Hypocracy," Baltimore Sun,

Despite impressive economic ties, South Africa's political influence in black states is quite confined. Mozambique's deep economic dependence on Pretoria had no apparent influence on Maputo's support for Robert Mugabe of Zimbabwe. Nor has it doused Botswana's participation as a Frontline State member. South Africa's striving to undercut the O.A.U. consensus on confrontation with the white regime, Pretoria's attempt to prove the economic benefits to black African states of pragmatism in their political relations, and its efforts to be seen as a non-aggressive state eager to adapt to its region--all have fallen far short of Pretoria's goals.

America's guilt by association with South Africa affects relations throughout the continent where, all told, U.S. interests range from the highly abstract to the particularly concrete. American political and economic interests in black Africa are, to a greater or lesser extent, endangered by ties to South Africa. Though little may in fact come from black African threats of a total minerals boycott, Nigeria has already warned foreign corporations to choose between operating there or in South Africa. In August 1979, Lagos did nationalize the British share of BP in Nigeria to retaliate for the alleged sale of British oil to South Africa.[1]

However much Pretoria's and Washington's geopolitical perspectives might overlap--as to the need to resist heightened Soviet-Cuban swashbuckling in Africa and adhere to a capitalistic economy and Western-type governmental structure--U.S. identification with South Africa, and vice versa, often undercuts American interests and policies elsewhere. The classic example, of course is the Angolan conflict. South Africa's helping hand turned a broad range of African positions into a more cohesive resistance to Western-backed parties, thereby--in the eyes of

[1] The move might, however, have had more to do with the new Thatcher government's position on Zimbabwe-Rhodesia, for the nationalization happened on the eve of the 1979 Commonwealth meeting in Lusaka to, among other things, discuss a settlement.

many Africans--legitimizing Soviet-Cuban intervention. South Africa's fateful efforts to boost Western interests ended up enhancing Soviet-Cuban military diplomacy aligning itself with African nationalism--precisely the reverse of U.S. goals. In restraining Soviet-Cuban military marauding on the continent, the formation of local power groupings to resist such incursions--as was attempted during the Angolan civil war--should remain a key U.S. goal. But overt South African involvement in such a grouping limits the chances of its success.

Quite aside from this type of specific crisis situation, South Africa remains a festering sore on Western moves to improve diplomatic relations with black African states and with the nonaligned nations as well. To give but one of many possible examples: the Nonaligned Conference which met in Havana last summer declared that "the imperialist powers"--which they defined as the major NATO allies, Japan, Israel and Australia--"cannot escape blame for the existence and maintenance of racist oppression and the criminal policy of <u>apartheid,</u> because of their political, diplomatic, economic, military, and nuclear and other forms of collaboration with the Pretoria regime to deny the South African people their legitimate aspirations." Many commentators indubitably dismiss the "nonaligned" statements as empty rhetoric. Be that as it may, such statements occasionally reveal true sentiments in the Third World.

B. <u>The Effect of South African Proliferation on African Diplomacy</u>

A clear display of a South African nuclear weapons capability--whatever the form of that display--would seriously damage Western diplomatic relations throughout the continent and beyond. This is true in terms of the black African nations and their colleagues in the developing world, and in terms of South Africa itself.

An overt South African nuclear weapons capability would damage Western relations with Africa and many sympathetic Third World nations, due to several factors. The decades of Western nuclear dealings with

South Africa would be highlighted with the intention of demonstrating that the West provided the apartheid regime with that capability. In this manner, the always-powerful link between the ruling whites in South Africa and the whites in the Western world--as perceived by other races around the world--becomes yet more powerful.

On top of this factor would be the perception of a South African bomb primarily designed for use against the world's downtrodden people: the blacks beyond South African borders and/or blacks "oppressed" within.

This perception would make the South African case rather unique from that of other nuclear-capable states. The United States, Soviet Union, France, Britain, and China all have nuclear weapons to pose a threat against each other, that is, against the other major power. Israel allegedly possesses the weapon against the now-prosperous Arabs and dire threats posed from that quarter. India has a nuclear "device"--it denies it has "nuclear weapons"--to face a threat from the major power of China or the mid-developed state of Pakistan. Hence only South Africa would have a nuclear weapon perceived as a threat against impoverished minority peoples, and this would lend the entire issue yet another potent, emotional dimension.

An overt South African nuclear weapons capability would inevitably injure Western relations with South Africa as well. Anti-South African religious and university groups in the West, as mentioned previously, would prove even more effective in Western nations. Many members of Congress feel exceedingly strong about nuclear proliferation. A popular outcry could well provoke Western governments to take complete retaliatory measures--of what kind and to what degree cannot easily be predicted--which in turn would invariably chill the already cold relations between Pretoria and Washington, and Pretoria and Western and Japanese capitals.

In essence, South African proliferation would carry serious political costs for the United States and its allies in the whole of Africa and some, though lesser, costs in their relations with the Third World.

C. Regional Stability: South Africa Within the Region

A United States' major overall politico-strategic goal is for stability in southern Africa, that is, for avoidance of substantial conflict in the area. This in turn depends upon the nature and depth of South Africa's relations with black states in the region and the effect of its proliferation on those relations.

One of Pretoria's longstanding foreign policy goals has been the improvement of relations throughout the continent and especially within its own area. The previous incarnation of this approach was called "detente"; the newer one is called a "constellation of southern African states."

Detente flourished as Prime Minister Vorster and his aides traveled clandestinely around black Africa to launch a dialogue and to gain respectability. Progress was made--how much is debatable, but some--with such moderate states as Senegal, Ivory Coast, Zaire, Zambia, Liberia, and Malawi (the latter being the sole black state having diplomatic relations with Pretoria).

But "detente" was dealt twin blows in 1975-76 from which it has not recovered. First was Pretoria's military incursion into the Angolan civil war. Ironically, this grew out of the very same detente policy, as many moderate Africans begged the Republic to combat the Marxist MPLA there. But it also sounded its death knell. The first use ever of South African regulars beyond their national territory was deemed unacceptable by most black Africans.

Second was the Soweto uprising of June 1976, which made Africans recoil even more. Blacks without could not be seen as being friendlier with the Afrikaner regime than blacks within.

The now fashionable "constellation" concept followed on detente's heels. In his inaugural speech to Parliament as Prime Minister, P.W. Botha

introduced the full phrase "constellation of southern African states." He gave it some substance by proposing a series of nonaggression pacts throughout the region. Foreign Minister R.F. Botha followed this up by mentioning the possibility of "secretariats" to regulate the affairs of the 40 million people south of the Kunene and Zambezi Rivers, and the Minister of Economic Affairs, C.J. Heunis, chimed in with the notion of a Southern Africa Chamber of Commerce.

The idea of a "constellation" has something to it. In both military and economic terms, South Africa has increased its regional dominance since the 1975 Portuguese decolonization. The constellation policy would no doubt enhance this dominance. In its military aspects, it would involve "the concept of mutual defense against a common enemy," in the Prime Minister's words. Nations in the region would not only sign non-aggression pacts with one another but would also "undertake joint responsibility for the security of the region," which "will involve the combating and destruction of terrorism...and the mutual recognition of borders...a joint decision to keep communism out of southern Africa."

All of the Prime Minister's points would enhance South Africa. Most incidents of "terrorism" would be black groups fighting the white leadership; these urban guerrillas are frequently called "freedom fighters" after they win. The recognized "borders" would include the homelands within the Republic. Due to these and other factors, the entire military dimension of the "constellation" approach is quite far-fetched. As two South African scholars put it, not only is the idea "politically unpalatable but also infeasible as long as there is no shared perception of the threat against which they ought to be protected." [1]

The "constellation" policy will prove more successful in its economic dimension. In recent years, black states have uncomfortably become more dependent on Pretoria while Pretoria has become less dependent on them. As briefly mentioned above, black-ruled countries rely heavily upon

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[1] Geldenhuys and Venter, op. cit., p. 64.

South African transportation routes and--to a lesser extent--its trade, private investment, and official economic aid. Major mineral exporters--Zaire, Zambia, and Zimbabwe--are keenly dependent on South African harbors and railways. Meanwhile the Republic has become far less dependent on imported unskilled mine labor, much to the detriment of Malawi, Mozambique, Lesotho, and Botswana.

Hence, Pretoria has launched its "constellation" policy--as it does so many things--from a position of strength. Malawi has good political and economic ties to the Republic, as do Botswana, Lesotho, and Swaziland. Zimbabwe and Namibia now rest heavily upon the Republic, and naturally the "independent" or "to-be independent" homelands are even more tightly bound. The thrust of this policy, then, is to consolidate these relations and, more vital still, to reach out further.

Two prime targets are, of course, Mozambique and Zambia. Relations with Marxist Mozambique constitute a model for future relations with independent Zimbabwe and Namibia, whatever their ideological or political stripe. Considerable technical aid, equipment, and some economic aid has flowed from Pretoria to Maputo. In February 1979, South Africa signed a seven-year agreement to double its exports through the port of Maputo (to 12 million tons), and South African mining companies will finance the rail lines between Maputo and Komatiport. Pretoria added a sweetener by extending a $140 million credit in 1979 to Mozambique for the purchase of some 100,000 tons of corn and other products. For years after its independence in 1975, Mozambique had been receiving some 80 percent of its foreign exchange directly from South Africa based on a traditional gold-for-labor arrangement (with the gold figured at the old exchange rate of $42.20 an ounce). Thus, the stoutly capitalistic South Africa had been subsidizing the militant Marxist Mozambique to the tune of $100 million a year. Then, as now, Pretoria was its major supplier of food, industrial equipment, and consumer goods. South African technicians currently operate Mozambique's railways and its ports; nearly 6 percent of the goods in Maputo go to or come from South Africa (around 17,000 tons

per day). In return, President Machel has minimized his material support for South African black nationalist movements.

The same approach has been applied to Zambia and goes back a number of years. Zambia and South Africa conferred on a Rhodesian settlement and on Zambia's perpetually deteriorating economy back in the early 1970s with but a modicum of success.

Since then, economics has spearheaded their cooperation as South Africa has become Zambia's single largest trading partner. A third of Zambia's total trade is with the Republic, and Zambia currently has a credit line of $8 million which it uses to purchase agricultural products. In March 1980, Zambia ordered 50,000 tons of South African maize and signed contracts for 100,000 additional tons thereafter. Pretoria lent Zambia six locomotives, is training Zambian locomotive engineers, and has dispatched more than 2,000 railway cars to deliver goods and take out copper. South African transportation experts estimate that Zambia imports more than half of all its requirements through the Republic. Regular commercial air transport opened between Lusaka and Johannesburg in early 1980.

The increasing dependence of its black neighbors as far north as Zaire should not obscure their longer-term aim of reducing such dependence on the Republic. This goal became clear during a meeting of southern African black states in Arusha, Tanzania last year. It was reiterated in April 1980 when the leaders of eight black African nations in the region met in Lusaka, Zambia to declare their intention to lessen economic dependence upon South Africa. Six of the eight nations--Botswana, Lesotho, Swaziland, Malawi, Mozambique, and Zambia--are heavily economically dependent on South Africa while only two--Tanzania and Angola--are not.

Despite their best efforts, the black African nations are unlikely to reduce economic dependence on the Republic in the near future. As one observer put it, "The general assessment of the whirlwind meeting was that the goal...would take longer than and be nearly as difficult to achieve as independence for blacks in South Africa." [1] That will be long and difficult indeed. For one thing, the alternative economic relationships cost money, and none of the black African states have much money. The sums involved can be enormous. The construction of new rail lines, harbors, and international airports is very expensive. Development aid from international agencies and non-African governments can help, but seldom can it match the sums available from mine workers' wages, South African tourists' payments, private investment by South African corporations, technical assistance, foodstuffs and consumer products, or transportation and rail facilities.

For another thing, the history of economic cooperation between black African states has been rather feeble. The once-inspiring example of the East African Community--composed of Kenya, Tanzania, and Uganda--has disintegrated and formally ended since each state began fighting with the other two.

Finally, many of the black African states in southern regions have economies that are basically similar rather than complementary. These states usually have automotive assembly plants, cement and textile factories, and produce coffee, beef, corn, mutton, sugar, and tea. "There is not much available in any one that the others cannot produce themselves.[2] In short, it seems that the neighboring states' economic dependence will continue or perhaps even increase over time, much to Pretoria's liking.

Despite the apparent success of the economic component of the "constellation" concept, there are severe difficulties involved with its entire implementation. For one thing, the whole concept is to date more

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[1] Gregory Jaymes, "Cutting South Africa Tie a Tough Goal for Neighbors," New York Times, April 5, 1980.

[2] Ibid.

rhetoric than policy. Again to quote the two South African scholars, it "lacks a coherent intellectual basis. Without a clear conception of the substance of the idea, official pronouncements thereon are consequently vague and often contradictory. This, however, did not inhibit the proponents of a constellation from publicly expounding their idea with noted enthusiasm and conviction."[1]

Second, and far more importantly, the economic component of the constellation approach has not and probably will not affect its political or military aspects. As is clear, the black neighboring states are staunchly anti-Pretoria in their politics, regardless of how dependent they are and increasingly become in their economics.

As for the lack of any military dimension to the concept, one need only to look at the example of Zambia. Recently this nation, so economically dependent upon South Africa, turned to the Soviets for arms. The government ordered a squadron of sixteen MIG-21s from Moscow at the cost of some $85.4 million. Also included in the entire deal were armored cars, tanks, and personnel carriers, presumably to be run by the more than 200 Zambians currently in training in Russia. All told, the impoverished or nearly-bankrupt Zambia government is handing more than $100 million to the Soviets--reportedly in a barter arrangement for cobalt--which makes it the largest single arms purchase made by that nation since Independence fifteen years ago.

For a second example, one need look to Lesotho, a state entirely surrounded by South African territory and utterly dependent upon it economically. Nonetheless, Lesotho recently established diplomatic ties with Moscow and is rumored to be requesting arms from there as well. Again, no real military threat is posed to Pretoria. But, as in the case of Zambia, the lesson is clear: the closest of economic ties (even dependencies) have no political or military spillover.

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[1] Ibid., p. 67.

D. The Effect of South African Proliferation on Regional Stability

Obviously, any overt South African nuclear weapons capability would have a most destablizing effect within the region politically. Black African governments have repeatedly made clear their deep concern over this potential capability. Were South Africa to credibly prove the existence of nuclear weapons by carrying out a demonstration explosion in the South Atlantic, which carried more credibility than the September 1979 "flash," or in the Kalahari Desert, then African governments would surely ask the U.N. Security Council to bring immediate comprehensive sanctions to bear. Their pressure would be far more intense than in the current climate where South Africa's nuclear capability is clouded. For example, Nigeria's willingness to use their oil as a political lever on the West would most certainly be applied should the U.S. not act, in their view, forcefully against a South African nuclear capability.

Whether any overt South African nuclear weapons capability would have a devastating regional affect on stability militarily is far less certain. It seems probable that an increasing number of regional states would then turn to the Soviets for weaponry; those purchasing Soviet weapons already might increase their procurements. Military training by the Soviets would probably increase. More black countries would ask for Cuban or East German advisors, in small numbers initially, to bolster their confidence if not in fact their security. All such moves would be most unsettling to those in Western capitals and to those within the region who are deeply concerned with security matters in Southern Africa.

Whether this would translate into increased conflict on South Africa's borders and/or within the Republic itself is less certain. The regional black states realize that whatever level of arms or outside advisors they may receive, the South African military would remain predominant even without resort to nuclear weapons. In a relatively tranquil period, therefore, these measures would probably not increase the tempo of conflict measurably.

In times of substantial regional turmoil, however, an explosion of a South African nuclear device might dampen the conflict considerably. The more precarious the security situation for the Afrikaners, the more dampening such an explosion might prove--regardless of whether it takes place in a battlefield situation or, as is more probable, in the South Atlantic or in an uninhabited desert area. For such an explosion would prove, beyond anyone's reasonable doubt, that the Afrikaners were keenly aware of their declining security and were fully prepared to take whatever measures necessary to assure their people's survival. On top of its tremendous conventional power would be a real nuclear capability; this would cause increased trepidation among the black states and their Soviet-bloc allies, none of whom would need convincing that the Afrikaners were fully prepared to expend all of their military forces in the direst of situations.

E. Conclusions: The Effect of South African Proliferation on Western Political Interests

As mentioned, Western political interests in the region consist of: a) diplomatic relations on the continent and with the Third World in general, and b) stability within the region.

On the first score, overt South African nuclear weapons capability would damage Western diplomatic relations with developing countries, particularly those in Africa, and with South Africa. Western powers would be castigated for their past nuclear cooperation with the Republic. They would likewise be challenged to impose complete U.N. sanctions against South Africa; this they would probably refuse or subvert, causing yet more criticism throughout the Third World. Whatever measures were taken by the West would seem all too minor to the black African states and to the Third World. Furthermore, harsh Western political condemnation of Pretoria's move would further alienate the Afrikaners. Any concrete Western economic or political punitive measures, i.e., breaking diplomatic relations with Pretoria, would reinforce this breach between Pretoria and the industrialized democracies. In short, Western diplomacy throughout black and white-ruled Africa and in the Third World would suffer considerably.

As to the second overall Western interest, a South African nuclear capability would adversely affect the security situation in the region during relatively tranquil times. Black states would increasingly turn to Soviet military assistance and advisors, and this would be unsettling to virtually all parties concerned with stability there. During times of relative turmoil, however, a South African nuclear demonstration would have a sobering effect upon its adversaries, and thereby help stabilize what would then be a rapidly destabilizing situation. Though somewhat comforting, this scenario nonetheless presumes that the security situation has become grave indeed at that point.

VII THE EFFECT OF SOUTH AFRICAN PROLIFERATION ON WESTERN MILITARY INTERESTS

The most obvious yet frequently disputed American and Western security interest in southern Africa involves the shipping route around the Cape of Good Hope. It is obvious because South Africa sits astride a shipping lane that has become among the world's busiest and most important. Yet it is also frequently disputed since the issues involved today are less clear cut than those in the past, when control of the Cape route was critical to British supremacy at sea and to its global security interests. During World War II, when the Mediterranean Sea was sealed by the Germans, control of the Cape became central to the Allied war effort in the Middle East and elsewhere.

These are stark facts. Yet they do not themselves answer the critical question: Is the Cape route still vital to Western security, given the changed political, economic, and technological conditions of today? Nor do they answer the central question of our study: Would South African nuclear proliferation affect Western security interests in the Cape route?

To answer these questions, we must examine the Western commercial interests in the Cape route, then Western military interests there, the threats posed to those interests, South Africa's ability to meet those threats, and then the role of nuclear proliferation in the entire issue.

A. Western Commercial Interests in the Cape Route

Since the closure of the Suez Canal in 1967, the Cape route has become "the most crowded shipping lane in the world."[1] The flow of oil in that

[1] Patrick Wall, "The Vulnerability of the West in the Southern Hemisphere," Strategic Review, Vol. IV, Winter 1976, pp. 44-50.

land has increased twentyfold over the past decade alone. In 1975, some 24,000 oceangoing vessels passed the Cape; 9,476 of them docked in the adjoining South African ports. The reopening of the Suez Canal may not diminish the Cape's traffic since some 80% of the ships currently under construction exceed a weight of 200,000 tons and are thus larger than the largest ships now able to pass through the Canal (124,000 tons in ballast). Today, more than half of Europe's oil supplies (some 12 million barrels of oil per day) and a quarter of its food pass the Cape. By the 1980s, more than half of America's oil imports may also travel by the Cape route.[1]

B. Western Military Interests in the Cape Route

Even the most cursory glance at a world map would indicate the importance of South Africa's location, given these transportation figures and forecasts. Dr. Ray S. Cline has clearly described this importance as follows:

> ...a crucial geostrategic fact of life is that the sea lanes linking the all-important oil sources of the Persian Gulf with the industries of West Europe and the Americas pass along both the Indian Ocean and South Atlantic coasts of Africa and around the Cape of Good Hope. In any 24-hour period about 55 ships will pass the Cape of Good Hope on the way between the Atlantic and Indian Oceans... Oil, plus copper from Zaire, Rhodesian and South African chrome, and other scarce alloy metals are all vastly important to the advanced industries of the United States and other industrial countries. Any prolonged interruption of seaborne commerce in the South Atlantic would be a disaster.[2]

Patrick Wall, a member of the British Parliament, has described the strategic importance of the route to Western European nations as follows:

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[1] L.G. Gann and Peter Duignan, South Africa: War, Revolution or Peace? (Stanford: Hoover Institution Press, 1978), pp. 10-23.

[2] Ray S. Cline, "Southern Sea Routes and the Security of the Free World" in Free World Security and the South Atlantic, Council for Inter-American Security, (Washington, D.C.: Institute of American Relations, 1979), p. 11.

> Control of Southern Africa or the creation of chaos in that area could lead to the interruption of these raw materials so vital to industrialized Europe and thus cause mass unemployment and leave the European governments with the choice of surrender or initiating nuclear war.[1]

Even though of obvious importance, the Cape route is nonetheless of derivative importance. It may be crucial because of the importance and volume of the minerals travelling through it and because of the lack of favorable alternative routes. We will discuss these matters in terms of, first, the Cape route's importance to the Persian Gulf contingency and, second, to American nuclear strategic deterrence.

1. The Persian Gulf Link

In terms of the U.S. Navy's conventional role, the Cape route has become key to entering the critical Indian Ocean with military force. Before the Iranian hostage crisis erupted in November 1979, the sole American facility was, and was planned to be, the small naval depot at Diego Garcia. U.S. naval presence then consisted of a command ship and two destroyers that had operated out of Bahrain. In mid-1979, President Carter ordered two additional destroyers to be there on a permanent basis and increased the yearly deployments of the Seventh Fleet from three to four, at least two of these to be led by carriers. With the increased importance of the Persian Gulf's area and the U.S. security umbrella which the President proclaimed in his 1980 State of the Union address, America's presence in terms of ships and facilities is sure to rise markedly.

This is essential if the experience of World War II retains its validity. As Dr. Geoffrey Kemp has stated, "Perhaps the most important lesson of World War II for the South Atlantic was the growing importance

[1] Patrick Wall, MP, "The Security of the Atlantic Ocean--A British View," Free World Security and the South Atlantic, 1979, p. 31.

of the Middle East oil as a vital material for modern warfare and the need to insure access to oil supplies and to protect sea lines of communications in both peace and wartime conditions." [1]

Looking at alternative routes to enter the area in a Persian Gulf contingency, Dr. Kemp pinpointed four. First is the path from the Mediterranean Sea via the Suez Canal and the Red Sea into the Arabian Sea. Though this is convenient in terms of distance and time, it would be exceedingly difficult if the conflict were taking place in that exact area, as it probably would be. The historical record is not comforting in this regard: the Suez Canal was inoperable during the 1967 and 1973 conflicts and thereafter, while the Bab el Mandeb Straits were blockaded for periods during 1973, and would probably be blockaded again during a regional conflict anywhere in the area.

Second is the path from the South and East China Seas and the Western Pacific through the Indonesian straits and into the Indian Ocean. Again this would be convenient in terms of distance and time, but again it would be terribly vulnerable. Travelling through narrow straits poses heavy risks of attack from shore-based munitions or air power. Again, the historical record reveals these problems: in 1971, when the U.S. deployed a nuclear task force through the straits into the Bay of Bengal, it was vigorously opposed by many littoral states.

Third is the route from the Western Pacific and South China Seas around Australia through the Bass Strait and into the Indian Ocean. This would be a safe route but it does pose problems of distance and time. Besides, it raises the question of whether the proper naval drawdown for a Persian Gulf contingency would be from the Pacific Fleet, as it has been during the Iranian crisis. Most strategists believe that, in

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[1] Geoffrey Kemp, "The South Atlantic as a Strategic Theater," U.S. Maritime Interests in the South Atlantic. A study done for the Navy in October 1977, p. I-27.

times of real conflict, the Pacific fleet would be needed to protect Japan and other allies in northeast Asia, and that naval deployments should come from the Atlantic and not Pacific fleets.

Fourth is of course the Cape route, either beginning in the Atlantic and travelling around the Cape of Good Hope directly into the Indian Ocean or from the Pacific and passing through the Panama Canal and then through the south Atlantic and around the Cape. By all accounts, this would be the safest, quickest, and most beneficial route given the sizable U.S. naval deployments already in the Atlantic.

2. The Strategic Nuclear Link

The Cape route also proves important to the U.S. Navy's strategic nuclear role in deterrence, since its ballistic missile submarines use the route for deployments into the Indian Ocean. That Ocean's irregular currents and thermal layers make it capable of baffling Soviet listening devices. Besides, its location is ideal since the range of Trident submarines allows them to target Moscow, Leningrad and other areas west of the Urals.

Both the conventional and strategic nuclear roles of the U.S. Navy would lend importance to the Cape route. This is especially the case since inclement weather, as well as convenience and economy, induce most vessels to hug the South African shores, i.e., to stay within 15 or 20 miles of the land, while travelling around the Cape.

3. Qualifications to the Cape's Importance

Having pointed out factors which lead one to hold the Cape route and in turn South Africa to be of vital importance to Western security, we must now temper that conclusion somewhat. Many heated arguments are made to discount these factors and they need to be addressed.

Even though South Africa has a huge 2,881 kilometer coastline and sophisticated port facilities around the Cape route, the political orientation of its government is not--some people contend--key to the route's safety. Certainly a pro-West regime in South Africa poses no danger to the security of this choke-point, though it might not in itself be sufficient to protect it. As discussed in a later section in this Chapter, it seems that South Africa is not very capable of protecting the Cape on behalf of the West, nor is its stated policy one of becoming capable of such protection.

Neither can it be assumed without examination that a neutral/non-aligned or even radical/anti-West government would ipso facto threaten the security of the Cape route. A radical leftist regime taking power in Pretoria with Soviet aid--in itself, a wholly improbable happening--may not allow Moscow to use its ports for naval operations against the West. Recent African history indicates that such movements stress nationalism and are eager to project an image of self-reliance and independence. Any blatant sign of alignment, such as the granting of a foreign base, would undercut some of their rationale. This was the case with Mozambique--which in late 1975 was infuriated by the Soviets' heavy pressure to establish Russian naval bases there--and by Angola, whose constitution explicitly prohibits the "installation of foreign bases on national territory."

The refusal of these two black, Marxist regimes--which came to power through communist-supplied arms and, in Angola's case, with the aid of a massive (16-20,000 men) commitment of Cuban combat troops--to give Moscow bases was unexpected by U.S. policymakers in the mid-1970s. The rebuff must also have been unexpected by Soviet policymakers. It certainly dashed the hopes of the architect of the modern Russian Navy, Admiral of the Fleet Sergei Gorshkov, who publicly called for naval facilities around the African coast.[1]

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[1] For a full discussion, see: Colin Legum, "International Dimensions of Violent Communical Conflict," in Africa in the 1980s: A Continent in Crisis (New York: McGraw-Hill, 1979), pp. 49-50.

But even were a radical regime to come to power in South Africa and then to allow the installation of Soviet naval facilities, there is yet another question: Would the Soviets use such bases to blockade or thwart Western shipping?

The answer here, too, is not self-evident. For a total blockade of vital Western oil shipments would constitute a casus belli, as Moscow well appreciates. Should the Soviets seek to spark a global conflict by halting oil flows, there are far more enticing means than a naval blockade in southern Africa. Bombing or sabotaging the oil fields or militarily occupying key oil-producing areas in the Persian Gulf would be swifter, easier, and surer. Should Moscow nevertheless seek a naval blockade somewhere, the prime areas would be at the Strait of Hormuz at the mouth of the Persian Gulf or in the Mediterranean and the North Atlantic. All of these offer the Soviets shorter lines of supply and better opportunities for full air cover. Such factors, woven together, have led one African specialist to conclude: "Southern African bases are simply irrelevant to the protection or intimidation of oil shipments from the Gulf states."[1]

All things considered, however, this conclusion is too glib and is in fact too shallow. For a real threat to Western security through disruption of the Cape traffic may seem remote to some people today, but it cannot responsibly be dismissed by anyone for tomorrow. The foreign-policy analyst must contemplate and prepare for contingencies which, however remote in their

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[1] William Foltz, "U.S. Policy Toward Southern Africa: Economic & Strategic Constraints," in Rene Lemarchand, American Policy in Southern Africa, (Washington, D.C.: University Press of America, 1978), Ch. 6., p. 261. For further analysis of these points see Robert M. Price, U.S. Foreign Policy in Sub-Saharan Africa: National Interest and Global Strategy (Institute of International Studies, University of California, Berkeley, 1978), Chapt. 2.

probability (and this one may not be so remote), would be devastating in their eventuality.

So the safety of the Cape route must be factored in as one component of overall American interests in southern Africa. It could be a critical one in case of a large-scale conventional conflict in the Indian Ocean or in other places where U.S. naval use of South African ports could prove key to success. The growing strength of the Soviet Navy and growing world tensions make the issue all the more critical to U.S. national security.

C. Soviet Interests and Capabilities in the Cape Route

Over the past two decades, the Soviets have concentrated on building up their Navy which, accordingly, has grown from a strictly coastal defense force to a blue water navy. In peacetime, the Soviets use their Navy as a means of augmenting political influence--"showing the flag," among other things--especially within the Third World. Its Navy is also used for projection of power, to help supply friendly regimes with arms or forces. Supplying a client state by sea has become an important role for both superpowers. The Soviets have steadily been adding to their projection of intervention capabilities by constructing aircraft carriers, Minsk and Kiev, with Yak-36 Forger VSTOL aircraft aboard them. In addition, Moscow has also augmented its amphibious capability by deploying amphibious ships to all major oceans.

The Soviet Navy is also designed to inhibit or even prohibit Western counteractions in times of crisis. By positioning its naval vessels between potential "counter-revolutionary" forces and its allied "revolutionary" forces, the Soviets can effectively cordon off an area and perhaps even a conflict. During the 1973 Middle East War and the 1975 Angolan War, Soviet forces assumed positions considered "interpository," intended to discourage U.S. Navy intervention with a flow of supplies.

In its strategic nuclear role, the Soviet Navy is vitally interested in tracking Polaris and Trident submarines. In its conventional role,

it seeks to threaten or appear to threaten Western sea lines of communications to vital friends and allies abroad. In fact, threats to open unfettered maritime passage have been rising with such technological advances as advanced satellites for ocean surveillance and communications; anti-ship missiles; anti-submarine warfare capabilities; and improved force projection and fleet support capabilities.

To pose a credible threat to vital Western resource needs (predominantly oil), the Soviets have augmented their forces in the Indian Ocean. During recent times, they have steadily maintained a force of 18 to 20 ships in that Ocean on a permanent basis, 6 to 8 of which have been combatants. The new Soviet aircraft carrier, the Minsk, which docked off Aden in the summer of 1979, caused particular trepidation in Saudi Arabia, Kuwait, and Oman by its mere presence in the Persian Gulf area.

All of these factors tend to increase the importance of the Cape route, if for no other reason than that it seems to the Soviets to be a critical area to Western commercial and military interests. In addition, the Soviets also may be interested in the Cape route as the key waterway to link the European Soviet Union with the Soviet Far East. The Northern Sea route is only open for four months a year; two other usual routes pass through canals which lie in foreign jurisdictions. Only the Cape route can provide certain year-round passage for the Russians to pass through international waterways.[1] This factor may become increasingly important as the Soviets augment their forces in the Far East to ward off an increased threat from the People's Republic of China. Perhaps Peking has realized this in its own long-range planning, for over the past year it has put out feelers for open communications with South Africa and has toned down its past anti-South African tirades.

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[1] U.S. Maritime Interests in the South Atlantic, op. cit.

D. South African Capabilities on the Cape Route

Among the fearful scenarios facing Pretoria is one of a naval blockade led by the Soviet Union and sanctioned by the United Nations. Despite the frequency of the Afrikaners' mentioning this scenario, its probability remains low over the next decade. No effort has been made to police the U.N.'s 1977 arms embargo against South Africa, and the Soviet Union may be quite reluctant to police the exceedingly difficult naval blockade. Key South African ports are not only critical to the Republic but are also the economic lifelines for neighboring black states. A total blockade would ruin these black states. So the blockade would have to be partial, hence making it far more difficult.

South Africa has been augmenting its Navy for its own national defense quite steadily. Since the 1977 decision by France to halt sales of submarines and frigates to South Africa, Pretoria has trimmed its naval doctrine and operations. It has publicly renounced responsibility for the protection of the entire sea route--if it indeed had ever assumed such responsibility--and has concentrated its naval energies on the protection of its own harbors and immediate coastline from direct attack or interruption of its own shipping. South Africa still plays an air-reconnaissance role and maintains Silvermine, the Cape communications center designed to monitor the Indian Ocean and Cape naval and air traffic. It used such capabilities in the summer of 1979 to track the Soviet carrier task force moving around the Cape.

The South African Navy will remain basically a coastal defense force rather than a blue water fleet. It will have little capability for long-distance maritime presence or patrol. To protect its 2,100 nautical mile coastline as well as to provide some air-sea rescue work, anti-submarine detection, and protection of the national 200-mile fishing grounds, the South African Air Force and Navy work together in their joint headquarters at Silvermine near Capetown. In April 1979, the South African government announced formation of a new marine security force--consisting of experts

in radar, explosives, and underwater demolition, and heavily-armed patrol boats--designed to further protect the harbors and coastline. Such measures by South Africa are but part of a world-wide trend, namely the proliferation of sophisticated conventional weapons systems among coastal states, all of whom wish to defend themselves against external intervention and to prevent or at least threaten the use of their coastal seas.

E. South Africa's Reaching Out for Allies

In order to bolster its own coastal defense--and to help realize its long-term goal of gaining international acceptance--South Africa has put out feelers to Latin American nations for a South Atlantic Treaty Organization (SATO). The former Commander-in-Chief of South African Defense Forces, current Minister of Defense, and a top advisor to the Prime Minister, Gen. Magnus Malan, recently visited his counterparts in Argentina, Chile, and Paraguay. Previous talks were held with Brazil, but they have cooled since Brazil now wishes to tighten its ties to the Luso-African states of Angola and Mozambique. But Chile and Argentina may view cooperation with South Africa as a welcome means of combatting the Cubans. The latter (Argentina) may also be interested in nuclear collaboration with South Africa should the pressures on "pariah" states increase. At present, Argentina depends upon the U.S. for most of its uranium; since those bilateral relations have become strained in recent times, it may now seek an alternative supplier in South Africa. However, to date, such action does not seem imminent.

Such feelers are accompanied by talk from the Afrikaners that South Africa may loosen its ties to the West. In January of 1977, for instance, P.W. Botha warned in an interview with the London Times that "because of the way they have behaved towards South Africa, [the Western States] could no longer take South African support for granted in the event of an East-West conflict...If it suits us, we can remain neutral."[1]

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[1] Department of Commerce, Foreign Broadcast Information Service, Daily Report, Sub-Saharan Africa, p. E-6 (February 2, 1977).

But such talk of neutrality by South Africa is ludicrous. Despite the rhetoric, the South Africans long to participate in a Western security system. To bolster their case, South Africans constantly emphasize past measures taken to assist the West in times of crisis. During World War I some 12,400 South Africans died for the Allies. During World War II another 12,000 lives were given, many by South African pilots who helped liberate Ethiopia from the Italians.[1] In 1949, South Africa sent an air crew to support the U.S. airlift to West Berlin. In 1950, Pretoria dispatched an Air Force squadron to serve under the UN Commander in the Korean War. In 1955 it entered into an agreement allowing the British Royal Navy to use the Simonstown port in exchange for military equipment.

Since the early 1950s, South Africa has repeatedly asked NATO and its members to be allowed to join, or at least be permitted to strengthen its security ties with the West. In March 1974, the French and South African navies carried out joint maneuvers, much to the joy of Pretoria. When Britain announced its withdrawal from the Simonstown Agreement in October 1974, South Africa offered the United States use of its facilities. Rebuffed by the West in Europe and North America, South Africa moved to form a South Atlantic Treaty Organization in order to gain acceptance in a Western military bloc, with all that implies in terms of recognition and prestige. But nothing ever materialized of this either.

Thus, South Africa is left without any international security guarantees. Vice President Mondale bluntly informed Prime Minister Vorster in Vienna in May 1977 that America would not come to the assistance of a government upholding apartheid in any type of attack.

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[1] This was the case, however, largely because Afrikaners were not yet in control. The British stock was staunchly pro-British, but the Afrikaners were not; memories of the Boer War still rankled in their souls, and German National Socialism fired their imaginations. Afrikaner leaders like John Vorster wanted either a neutral stance or a pro-Nazi one. He was interned as a result.

Afrikaners heard the words but harbor the hopes. Many cling to the belief that, in a time of real crisis, the West would need and welcome Pretoria's cooperation. They may have a point, if considered in terms of the West's crisis rather than South Africa's crisis alone. Just as Britain and the United States were willing to embrace Stalinist Russia to help overcome a greater foe, Hitlerian Germany, the West might cooperate with racist South Africa to help overcome a greater foe, the Soviet Union.

While waiting for such a forbidding day to come about, however, South Africans feign an inkling for neutrality. Despite all the rehtoric, one informative scholar in this area, Robert S. Jaster, concludes that neutrality is "not a serious option for South Africa." Economically, politically, and culturally, the Republic is tied in too tightly with the West. There is little evidence that the East would believe South Africa's protestations of neutrality, or even wish South Africa to go neutral or to join its camp. "Threats to remain neutral thus appear no more than an angry gesture of defiance" on the world scene and of gathering popularity on the domestic scene.[1]

Rather, the Republic wishes not to separate itself further from the West but to integrate itself further in the West. Again to quote Robert Jaster: "South Africa remains eager to join in Western defense. Moreover, South Africa would be willing to pay a high price for admission." If receiving a "binding, long-term defense pact," the Republic would agree to UN supervised elections for Namibia, sign the Non-Proliferation Treaty (if also supplied with enriched uranium), do more to protect the Cape route, and make some concessions on petty apartheid. "Much as South Africa wants to be associated with a Western alliance, however, she would be tough and demanding in any negotiations."[2]

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[1] Robert S. Jaster, South Africa's Narrowing Security Options, Adelphi Paper No. 159, International Institute for Strategic Studies, p. 33.

[2] Ibid., p. 42.

And despite all the official talk of neutrality, South Africa still would like greater Western security measures in its own region. Following the Soviet invasion of Afghanistan were a flurry of editorials urging the West to bolster its defenses, in part by bolstering its presence in southern Africa. This message was carried in the editorial in The Star on January 10, 1980. The Citizen in a January 11, 1980 editorial entitled "Use Simonstown" addressed to Western leaders, read:

> You should allow South Africa to join you in the overall planning of strategy in the Indian Ocean and South Atlantic. And you should make use of our naval base at Simonstown--one of the best-equipped naval stations in the southern hemisphere--and our vast underground maritime and communications centre at nearby Silvermine.

Even were such steps taken--which they would not be, except in times of overall Western security crisis--there would be problems in cooperating with South Africa. Not only would there be severe political problems for any Western government openly doing so, but there would also be military problems. Because of the persistent strains in relations, service-level ties to the South African military are rather loose. The lack of long and close Western-South African military relations of course reduces possibilities for joint operations and joint planning on both an operational and strategic level.

Besides, the common basis and background for mutual understanding is currently lacking. As Jaster notes, South Africa's "decisions are taken without benefit of the day-to-day informal consultations and exchanges that make up the bulk of diplomatic cable traffic among states which have a common concern with global problems and which participate jointly in various continuing political, military, and economic fora."[1] Hence a full-scale military cooperative effort would be difficult to launch on short notice in a crisis situation.

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[1] Ibid., p. 38.

F. The Effect of South African Nuclear Proliferation on Western Military Interests

An overt South African nuclear weapons capability would make closer Western-South African military cooperation all the more imperative yet all the more difficult. It would be imperative since Western capitals would be most eager to be informed as to the possible use of this capability and would be eager to influence South African decision-making in the security realm. Yet this tighter cooperation would be more difficult due to the higher political barriers which would have to be erected after a South African nuclear weapons display, of whatever type.

Nonetheless, a South African nuclear capability might be of military utility to the West if Pretoria decided to produce nuclear anti-submarine weapons. Such weapons could be modelled after the type produced by Britain, which recently announced that it had armed its anti-submarine helicopters with nuclear weapons known as "depth bombs." They could explode underwater with a force sufficient to destroy an enemy submarine some distance away; the yield is up to ten kilotons. The British delivery system consists of naval helicopters which fly from Britain's three carriers, other warships, and land bases.[1]

South Africa could follow in Britain's steps. It could produce ASW nuclear weapons which are easily adapted from the nuclear devices needed for free-fall fission bombs. Nuclear ASW weapons can be either dropped from aircraft already on hand or could be delivered with little modification from South African surface naval vessels ranging from light patrol boats to frigates and destroyers. But aircraft—both helicopter and fixed wing--are the best delivery vehicles for this weapon.

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[1] U.S. Department of Commerce, Foreign Broadcast Information Service, Daily Report, Western Europe, April 7, 1980, p. Q1.

An announced nuclear ASW capability would vastly enhance South Africa's capability to protect the Cape route during times of global tension or global confrontation. Since the ASW weapon could easily be converted into a nuclear gravity bomb, South Africa could simultaneously gain a deterrent capability with regard to threats looming from a ground assault in the region.

Considering the possible contribution a South African nuclear ASW capability could make to Western security naturally raises the overall question of Western ties to South Africa. In order to be an effective contribution, such a South African capability needs to be matched by considerable military consultation and cooperation. Western military and intelligence officers would need to share more information on the possible utility of such a weapon, the nature and flow of Soviet submarines, the probable timing of such deployment, etc.

Technical matters of this type require considerable communications over an extended period of time. It is most doubtful at present whether this type of communications is currently taking place, which would set the stage for the greatest possible contribution by South Africa to Western security interests around the world.

In addition, whether deployed as an ASW capability or not, South Africa's overt possession of nuclear weapons in any mode would invariably set off a hailstorm of criticism and controversy. Since this point has been made throughout this study, it need only be mentioned to remind the reader at this point.

VIII SOUTH AFRICAN PROLIFERATION AND WESTERN SECURITY INTERESTS IN GENERAL

From the material contained in the preceeding seven chapters of this report, it is clear that the overall effect of an overt South African nuclear weapons capability during relative peacetime would be negative. While there would be some military utility to the West--particularly in terms of a South African nuclear ASW capability--the economic, political and ideological repercussions would be negative.

This conclusion would lead U.S. policy-makers to strive to head off this action rather than to manage it once South Africa clearly displays a possession of nuclear weapons. Such is a difficult task since this whole matter is one which touches upon three of the most emotional issues of our time: 1) human rights and political relations with the Third World; 2) U.S. national security in the dangerous decade ahead; and 3) the spectre of nuclear proliferation. The primary task for U.S. decision-makers, hence, is to balance the three in a creative yet realistic manner. This is an exceedingly demanding challenge since elements of the three are contradictory, as explained below.

A. Human Rights and Political Relations with the Third World

To pursue these goals, the U.S. should distance itself from the South African government in every manner possible. To withdraw the U.S. naval attaché, cut back on U.S. governmental participation in trade with and investments in South Africa, and support U.N. resolutions against the Republic would be consistent with such goals. Whether these steps would actually foster black rights within that country is highly dubious. Nonetheless, these steps would help American relations with black Africa and generally with the Third World.

B. U.S. National Security Interests in the Decade Ahead

To advance its own security interests in the decade ahead, the U.S. should move in the opposite direction, namely tightening its ties to South African security officials. It can likewise move to encourage more active South African measures to protect the Cape of Good Hope sea lanes on behalf of the entire Western world, and can reopen all channels of communication of value to U.S. security interests in general. Past reductions of defense and intelligence contacts with South Africa have had harmful effects on Western capabilities there while accruing slight if any political benefits elsewhere on the continent or around the world.

U.S. security ties to South Africa are valuable in four respects. First and foremost, a channel thereby remains open for the U.S. to receive helpful or even critical intelligence at little cost. In 1976, the United States removed its last electronic intelligence-gathering ship from the South Atlantic with the understanding that the South Africans would gather that information and pass it along to the United States. The value of such information has risen along with expanding Soviet naval--and general projection-of-power--capabilities. Last year, for example, South African maritime patrol aircraft kept close surveillance of a Soviet task force, led by the new aircraft carrier Minsk and two missile cruisers, rounding the Cape to head for the Persian Gulf.

Second and related, leaving open the channels of communication leaves open channels for concrete cooperation in a major crisis. Such a crisis could be on a worldwide scale (conventional or nuclear) or on a regional scale in such areas as the Persian Gulf. This factor has obviously become more critical since President Carter declared the Persian Gulf to be an area of vital U.S. national security concern. Either scenario might force U.S. officials to swiftly put aside their repugnance of apartheid for the furtherance of critical Western interests in defeating the Soviets, just as U.S. officials of the 1940s put aside (or more accurately, overcame) their

repugnance of Stalin's gulags for the furtherance of critical Western interests in defeating Hitler. While unlikely at present, such a contingency cannot be written off in the dangerous decade of the 1980s. Present strategic planning must allow for the possible use of the sophisticated South African naval facilities at Simonstown and Durban in a dire emergency. The world may well witness such an emergency in the coming times.

Third, Americans can use the military channel to gain insights into South African military doctrine and planning--factors sure to prove increasingly important in southern African regional affairs. Among South African Defense Force senior staff, a residual goodwill and pro-American sentiment linger. This offers access to an important sector of the Afrikaner establishment, particularly so at present since the top defense official wears a second hat as Prime Minister.

Fourth, U.S. officials in South Africa can help push for domestic change through the military channel, which is also more important than usual since Prime Minister Botha now continues as Minister of Defense. Also, the professional military seem among the most reform-prone of all Afrikaner establishment groups. Military officers realize, better than the Afrikaner populace at large, that the cure for the nation's cancerous ills does not lie solely (or even primarily) in the military ward. The appropriate kind of U.S. attache and diplomatic presence in South Africa can reinforce such views through daily contacts in informal gatherings.